## VTCC AD 2.1 AERODROME LOCATION INDICATOR AND NAME

## VTCC - CHIANG MAI/CHIANG MAI INTERNATIONAL AIRPORT

## VTCC AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

| | | |
|---|---|---|
| 1 | ARP coordinates and site at AD | 184617N 0985746E<br>Centre of RWY 18/36 1050 M from THR RWY 18 |
| 2 | Direction and distance from (city) | 4 KM SW |
| 3 | Elevation/Reference temperature | 315.740 M (1036 FT)/36°C |
| 4 | Geoid Undulation at AD ELEV PSN | NIL |
| 5 | MAG VAR/Annual change | 0°46'W (2016)/0°1'E |
| 6 | AD Administration, address, telephone, telefax, telex, AFS | Chiang Mai International Airport<br>Airport of Thailand Public Company Limited<br>60 Mahidol Road Suthep Subdistrict Mueang District<br>Chiang Mai<br>50200 Thailand<br>Tel: +665 392 2000<br>Fax: +665 392 2020<br>AFS: VTCCYDYX |
| 7 | Types of traffic permitted (IFR/VFR) | IFR/VFR |
| 8 | Remarks | Operator: Airports of Thailand Public Company Limited (AOT) |

## VTCC AD 2.3 OPERATIONAL HOURS

| | | |
|---|---|---|
| 1 | Aerodrome Operator | 2300-1700 |
| 2 | Customs and immigration | As AD administration |
| 3 | Health and sanitation | NIL |
| 4 | AIS Briefing Office | H24 |
| 5 | ATS Reporting Office (ARO) | H24 |
| 6 | MET Briefing Office | H24 |
| 7 | ATS | H24 |
| 8 | Fuelling | H24 |
| 9 | Handling | 2300-1700 |
| 10 | Security | H24 |
| 11 | De-icing | NIL |
| 12 | Remarks | NIL |

## VTCC AD 2.4 HANDLING SERVICES AND FACILITIES

| | | |
|---|---|---|
| 1 | Cargo-handling facilities | Trucks 1.5-3.5 T up to 10 T<br>Handling/Possible |
| 2 | Fuel/oil types | JET A-1: Hydrant System |
| 3 | Fuelling facilities/capacity | JET A-1 Refueller Storage Tank 2 Tank @ 350,000 L<br>1 JET A-1 Refueller @ 25,000 L<br>2 JET A-1 Refueller @ 12,000 L<br>1 AVGAS 100LL Trailer @ 3,000 L |
| 4 | De-icing facilities | NIL |
| 5 | Hangar space for visiting aircraft | NIL |
| 6 | Repair facilities for visiting aircraft | NIL |

| | | |
|---|---|---|
| 7 | Remarks | Chiang Mai International Airport has provided ground handling agents as the following number:<br>a) Thai Airways International Public Co.,ltd (TG)<br>Website:www.thaiairways.com<br>Tel: +662 593 2264<br>+662 539 2284<br>b) BAGS Ground Services Co.,Ltd<br>Website:www.bags-groundservices.com<br>Tel: +665 392 2461<br>c) Chiang Mai Ground Handling Services Co., Ltd.<br>Tel: +668 1472 2335<br>d) Hs Aviation Co., Ltd.<br>Tel: +661 901 2070<br>Website:www.hsavia.aero/home<br>E-mail: ops@hsavia.aero<br>e) Thai Ground Handling<br>Website:www.thaigroundservices.com<br>Tel: +668 0502 5184<br>E-mail: groundops@thai-handling.com |

## VTCC AD 2.5 PASSENGER FACILITIES

| | | |
|---|---|---|
| 1 | Hotels | Near AD and in the city |
| 2 | Restaurants | At the AD and in the city |
| 3 | Transportation | Public Bus, Airport Taxi and Limousines |
| 4 | Medical facilities | First Aid at AD and Hospital in the City |
| 5 | Bank and Post Office | At AD open 0100-1300 |
| 6 | Tourist Office | Office in the city<br>Tel. +665 324 8604, +665 324 8607, +665 330 2500<br>Fax. +665 324 8606 |
| 7 | Remarks | NIL |

## VTCC AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

| | | |
|---|---|---|
| 1 | AD category for fire fighting | Category 9 |
| 2 | Rescue equipment | Available-Category 9 |
| 3 | Capability for removal of disabled aircraft | Available - Up to B-747 |
| 4 | Remarks | NIL |

## VTCC AD 2.7 SEASONAL AVAILABILITY - CLEARING

| | | |
|---|---|---|
| 1 | Types of clearing equipment | NIL |
| 2 | Clearance priorities | NIL |
| 3 | Remarks | The aerodrome is available all seasons |

## VTCC AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

| | | |
|---|---|---|
| 1 | Apron surface and strength | South Apron Aircraft Stand NR 1-14<br>Surface: Concrete<br>Strength: PCN 78/R/C/X/T<br>South Apron Aircraft Stand NR 15-19<br>Surface: Concrete<br>Strength: PCN 62/R/B/X/T<br>South Apron Aircraft Stand NR 20L, 20 And 20R<br>Surface: Concrete<br>Strength: PCN 89/R/B/W/T |

| | | |
|---|---|---|
| 2 | Taxiway width, surface and strength | – Taxiway A<br>Width: 27 M, Surface: Concrete, PCN 70/R/B/W/T<br>– Taxiway B, C, E, G, P5 and P6<br>Width: 23 M, Surface: Asphalt, PCN 59/F/A/X/T<br>– Taxiway D Rapid exit taxiway<br>Width: 25 M, Surface: Asphalt, PCN 85/F/C/Y/T<br>– Taxiway F, H and Q<br>Width: 23 M, Surface: Concrete, PCN 88/R/D/X/T<br>– Taxiway P<br>Width: 23 M, Surface: Concrete, PCN 88/R/D/X/T<br>Width: 23 M, Surface: Asphalt, PCN 59/F/A/X/T |
| 3 | Altimeter checkpoint location and elevation | NIL |
| 4 | VOR checkpoints | NIL |
| 5 | INS checkpoints | NIL |
| 6 | Remarks | NIL |

## VTCC AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

| | | |
|---|---|---|
| 1 | Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands | Taxiing guidance signs at all intersections with TWY and RWY and at all holding positions.<br>Nose-Wheel guide lines at apron.<br>Solid Nose-Wheel guide lines at aircraft stands.<br>Nose-in guidance at aircraft stands.<br>Safegate Docking System at stand number 3, 4, 5, 6, 7 and 8. |
| 2 | RWY and TWY markings and LGT | RWY marking: DESIG, THR, TDZ, CL, AIM and Side Stripe<br>RWY LGT: THR, RWY Edge and RWY End lights<br>TWY marking: Centre line, Edge, RWY Holding Positions and Intermediate Holding Positions<br>TWY LGT: TWY Edge lights |
| 3 | Stop bars | Stop bars where appropriate |
| 4 | Remarks | NIL |

## VTCC AD 2.10 AERODROME OBSTACLES

| In approach/TKOF areas | | | In circling areas and at AD | | Remarks |
|---|---|---|---|---|---|
| 1 | | | 2 | | 3 |
| **RWY/Area affected** | **Obstacle type Elevation Markings/LGT** | **Coordinates** | **Obstacle type Elevation Markings/LGT** | **Coordinates** | |
| **a** | **b** | **c** | **a** | **b** | |
| TKOF RWY 36/<br>APCH RWY 18 | Building<br>HGT 370 M. MSL | 184818.45N<br>0985744.53E | Mountain North West of Aerodrome | | |
| | Building<br>HGT 372.7 M. MSL | 184824.68N<br>0985748.49E | TV Mast<br>HGT 526.16 M. MSL<br>Marked and Lighted | 184751.78N<br>0985633.93E | |
| See Aerodrome Obstacle Chart Type A | | | Building<br>HGT 381.18 M. MSL | 184722.21N<br>0985827.25E | |
| | | | Building<br>HGT 382.29 M. MSL | 184744.83N<br>0985709.86E | |
| | | | See Aerodrome Obstacle Chart Type B | | |

## VTCC AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|---|---|---|
| 1 | Associated MET Office | Northern Meteorological Center,<br>Thai Meteorological Department (TMD) |
| 2 | Hours of service<br>MET Office outside hours | H24<br>NIL |
| 3 | Office responsible for TAF preparation<br>Periods of validity | Northern Meteorological Center,<br>30 HR |
| 4 | Type of landing forecast<br>Interval of issuance | TREND<br>30 Min |
| 5 | Briefing/consultation provided | Personal Consultation<br>Tel: +665 320 3801<br>Fax: +665 320 3801 |
| 6 | Flight documentation<br>Language(s) used | Charts, Tabular forms and Abbreviated Plain Language Texts.<br>English |
| 7 | Charts and other information available for briefing or consultation | S, U85, U70, U50, U40, U30, U25, U20, SWH, SWM, SWL, P85, P70, P50, P40, P30, P25, P20, P15, satellite and radar images |
| 8 | Supplementary equipment available for providing information | Automated Weather Observation System (AWOS),<br>Low Level Wind Shear Alert System (LLWAS) and<br>Weather Radar |
| 9 | ATS units provided with information | Chiang Mai TWR |
| 10 | Additional information (limitation of service, etc.) | NIL |

## VTCC AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

| Designations RWY NR | TRUE BRG | Dimensions of RWY(M) | Strength (PCN) and surface of RWY and SWY | THR coordinates RWY end coordinates THR geoid undulation | THR elevation and highest elevation of TDZ of precision APP RWY |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 18 | 180° | 3400x45 | PCN 59/F/A/X/T<br>Concrete and asphalt | 184651.81N 0985746.51E | THR 315.740 M/ 1036 FT |
| 36 | 360° | 3100x45 | PCN 70/R/B/W/T<br>Concrete<br>(Displacement)<br>PCN 59/F/A/X/T<br>Concrete and asphalt | 184510.95N 0985746.26E | THR 306.944 M/ 1007 FT |

| Slope of RWY-SWY | SWY dimensions (M) | CWY dimensions (M) | Strip dimensions (M) | OFZ | Remarks |
|---|---|---|---|---|---|
| 7 | 8 | 9 | 10 | 11 | 12 |
| 0% -0.06% -0.53% -0.32% -0.05% -0.04% 0%<br>(300M 674M 1241M 1719M 2517M 3000M 3400M) | 100x45 | NIL | 3620x300 | NIL | NIL |
| 0% +0.04% +0.05% +0.32% +0.53% +0.06%<br>(400M 883M 1681M 2159M 2726M 3100M) | NIL | NIL | 3320x300 | NIL | NIL |

## VTCC AD 2.13 DECLARED DISTANCES

| RWY Designator | TORA (M) | TODA (M) | ASDA (M) | LDA (M) | Remarks |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 18 | 3400 | 3400 | 3500 | 3100 | NIL |
| 36 | 3100 | 3100 | 3100 | 3100 | NIL |

## VTCC AD 2.14 APPROACH AND RUNWAY LIGHTING

| RWY Designator | APCH LGT type LEN INTST | THR LGT colour WBAR | VASIS (MEHT) PAPI | TDZ, LGT LEN | RWY Centre Line LGT Length, spacing, colour, INTST | RWY edge LGT LEN, spacing, colour INTST | RWY End LGT colour WBAR | SWY LGT LEN (M) colour | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 18 | SALS<br>420 M<br>LIH | Green | PAPI<br>Both<br>3° 60 FT | NIL | NIL | 3100 M<br>60 M<br>White;LIH | Red | 100<br>Red | NIL |
| 36 | SALS<br>420 M<br>LIH | Green | PAPI<br>Both<br>3° 60 FT | NIL | NIL | 3100 M<br>60 M<br>White;LIH | Red | NIL | NIL |

## VTCC AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

| | | |
|---|---|---|
| 1 | ABN/IBN location, characteristics and hours of operation | ABN: At Tower building, FLG W G EV 7 SEC<br>IBN: NIL<br>As AD Administration |
| 2 | LDI location and LGT<br>Anemometer location and LGT | Wind Cone near right PAPI 36, illuminated<br>Anemometer: NIL |
| 3 | TWY edge and centre line lighting | EDGE: All TWY<br>Centre Line: NIL |
| 4 | Secondary power supply/switch-over time | Secondary power supply to all lighting At AD<br>switch-overtime : 15 SEC |
| 5 | Remarks | NIL |

## VTCC AD 2.16 HELICOPTER LANDING AREA

| | | |
|---|---|---|
| 1 | Coordinates TLOF or THR of FATO<br>Geoid undulation | NIL |
| 2 | TLOF and/or FATO elevation M/FT | NIL |
| 3 | TLOF and FATO area dimensions, surface, strength, marking | NIL |
| 4 | True and MAG BRG of FATO | NIL |
| 5 | Declared distance available | NIL |
| 6 | APP and FATO lighting | NIL |
| 7 | Remarks | NIL |

## VTCC AD 2.17 ATS AIRSPACE

| | | |
|---|---|---|
| 1 | Designation and lateral limits | A circle of 5 NM radius centred on<br>1845.9N 09857.9E |
| 2 | Vertical limits | 5000 FT/AGL |
| 3 | Airspace classification | C |
| 4 | ATS unit call sign<br>Language(s) | Chiang Mai Tower<br>English, Thai |
| 5 | Transition altitude | 11000 FT |
| 6 | Remarks | NIL |

## VTCC AD 2.18 ATS COMMUNICATION FACILITIES

| Service designation | Call sign | Frequency | Hours of operation | Remarks |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| APP | Chiang Mai Approach | 129.6 MHZ<br>305.4 MHZ | H24 | *Emergency |
| TWR | Chiang Mai Tower | 118.1 MHZ<br>*121.5 MHZ<br>236.6 MHZ<br>*243.0 MHZ | H24 | |
| GND | Chiang Mai Ground | 121.9 MHZ<br>275.8 MHZ | H24 | |
| ATIS | Chiang Mai Int Airport | 127.2 MHZ<br>301.5 MHZ | H24 | |

## VTCC AD 2.19 RADIO NAVIGATION AND LANDING AIDS

| Type of aid, MAG VAR CAT of ILS/ MLS (For VOR/ILS/ MLS, give VAR) | ID | Frequency | Hours of operation | Position of transmitting antenna coordinates | Elevation of DME transmitting antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| DVOR/DME | CMA | 116.9 MHZ<br>CH 116X | H24 | 184558.06N<br>0985740.38E | 318 M | DVOR/DME restriction due to mountainous terrain surround station coverage check does not provide adequate signal at required altitudes in various area as follows:<br>1. Beyond 40 NM<br>– Radial 350º-080º altitude should not below 8 000 FT<br>– Radial 081º-180º altitude should not below 7 000 FT<br>– Radial 181º-240º altitude should not below 9 000 FT<br>2. Beyond 20 NM<br>– Radial 241º-349º altitude should not below 12 000 FT |

| Type of aid, MAG VAR CAT of ILS/ MLS (For VOR/ILS/ MLS, give VAR) | ID | Frequency | Hours of operation | Position of transmitting antenna coordinates | Elevation of DME transmitting antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ILS CAT I LOC RWY 36 | ICMA | 109.9 MHZ | H24 | 184707.42N 0985746.56E (LOC) | | Instrument landing system (ILS)<br>– Reference Datum Height (RDH) is 16.5 M.<br>A. Localizer<br>– Coverage 25 NM within ± 10° and 17 NM between ± 10° and ± 35° from the front course line.<br>– The localizer antenna array is located on the extended runway centre line at distance 478 M from THR of RWY 18.<br>– Height of the array is 2.3 M.<br>B. Glide path 3°<br>– Coverage in sectors of 8° in azimuth on each side of the centre line of the ILS glide path to a distance of 10 NM up to 1.75 times the glide angle and down to 0.45 times the glide angle above the horizontal or down to 0.30 times the glide angle as required.<br>C. DME<br>– Paired with Glide Slope.<br>– Power output 100 watts.<br>– Bi-directional antenna. |
| GP/ DME | | 333.8 MHZ CH36X | | 184521.62N 0985742.19E | | |
| TACAN | CHM | CH 109 | | 1846.2N 9858.2E | | PN to ATC |

## VTCC AD 2.20 LOCAL AERODROME REGULATIONS

### 1. VFR REPORTING POINTS AND LOCAL PROCEDURES

1.1 CHIANG MAI INTERNATIONAL AIRPORT

1.1.1 Reporting points for VFR flight

In order to expedite and maintain and orderly flow of air traffic into Chiang Mai International Airport, the procedures of the inbound traffic of VFR flight, conventional and prop-jet aircraft, be set up as follow:

a) Aircraft entering to land from north of Chiang Mai International Airport, shall report over Mae Rim District, designated as MIKE ROMEO (1855.0N 9857.1E), Which is approximately 9 NM on R-353 of CMA VOR. When reaching MR the aircraft will be instructed to join aerodrome traffic circuit accordingly.
b) Aircraft entering to land from northeast of Chiang Mai International Airport, shall report over Doi Saket District, designated as DELTA SIERRA (1852.5N 9908.5E) and San Sai District, designated as DELTA SIERRA (1851.5N 9903.0E) Which are approximately 12 NM on R-057 and 7 NM on R-043 of CMA VOR respectively. When reaching DS the aircraft will be instructed to join aerodrome traffic circuit accordingly.
c) Aircraft entering to land from east of Chiang Mai International Airport, shall report over San Kampaeng District, designated as SIERRA KILO (1844.5N 9907.5E) Which is approximately 9 NM on R-099 of CMA VOR. When reaching SK the aircraft will be instructed to join aerodrome traffic circuit accordingly.
d) Aircraft entering to land from south of Chiang Mai International Airport, shall report over Mae Tha District, designated as MIKE TANGO (1827.5N 9908.0E) and Sarapi District as SIERRA INDIA (1843.0N 9902.0E) Which are approximately 21 NM on R-152 and 5 NM on R-130 of CMA VOR respectively. When reaching SI the aircraft will be instructed to join aerodrome traffic circuit accordingly.

1.1.2 Aerodrome traffic circuit

a) Using runway 18 by entering left traffic circuit only.
b) Using runway 36 by entering right traffic circuit only.

1.1.3 Overhead approach pattern

a) Using runway 18 by left turn pattern.
b) Using runway 36 by right turn pattern.

**2. STARTING UP PROCEDURE**

2.1 Chiang Mai International Airport

2.1.1 All IFR aircraft are to call “Ground Control” 5 minutes prior to start up request for ATC clearance.

2.1.2 Pilot are to inform “Ground Control” their call signs, and proposed flight level if it is different from the flight plan when they make the call as item 2.1.1 above.

2.1.3 In order to provide a more flexible ground traffic movement all domestic departures shall on longer be required to be ready to taxi within 5 minutes after clearance received.

**3. LOW VISIBILITY PROCEDURES (LVP)**

3.1 RWY 36 is equipped with ILS and is approved for CAT I operations.

3.2 Low visibility procedures will be established when a visibility of less than RVR 550 M or a cloud base of less than 200 FT.

3.3 Airports low visibility procedures will be enforced based on 2 Phases of Low visibility conditions (LVC) as following.

3.3.1 LVC Phase A (RVR 100 M-550 M)

3.3.1.1 LVC Phase A will be established when RVR is less than 550 M but not less than 100 M

3.3.1.2 All ground operators will be informed by both flashing-orange lights and Follow-me broadcasting

3.3.1.3 Standard Operating Procedures (SOPs) for low visibility condition shall be strictly applied by all ground operators. Advices or instructions by duty officer shall be followed due to safety.

3.3.1.4 Vehicles wishing to operate on service road shall maintain speed within 20 KM/HR and vehicles operation in apron area shall maintain speed within 10 KM/HR. Be sure that all vehicles turn on their head lamps and obstacle lights throughout the area of operations

3.3.2 LVC Phase B (RVR < 100 M)

3.3.2.1 LVC Phase B will be established when RVR is less than 100 M

3.3.2.2 All ground operators will be informed by both flashing-white lights and Follow-me broadcasting.

3.3.2.3 Standard Operating Procedures (SOPs) for low visibility condition shall be strictly applied by all ground operators. Advices or instructions by duty officer shall be followed due to safety.

3.3.2.4 All non-essential vehicles shall be vacated. Wheel-shock must be placed and tow bar must be disconnected

3.3.2.5 All operations in apron area are restricted.

3.4 Termination of low visibility procedures (RVR > 800 M)

3.4.1 All ground operators will be informed when low visibility conditions is terminated by broadcasting and all warning lights are turned of

3.4.2 All ground operators shall resume normal operations.

**4. SAFEGATE DOCKING SYSTEM – IN SYSTEM AT CHIANG MAI INTL AIRPORT**

4.1 INTRODUCTION

4.1.1 The SAFEGATE Docking System – in system is install at bay 3, 4, 5, 6, 7 and 8

4.1.2 The system enables the pilots seated on the left of the cockpit to position his aircraft on the correct stand centre line and stop position

4.2 PILOT OPERATING INSTRUCTION

4.2.1 Safety procedure

a) General warning

The DGS system has a built-in error detection program to inform the aircraft pilot of impending dangers during the docking procedure.

If the pilot is unsure of the information, being shown on the DGS display unit, he must immediate stop the aircraft and obtain further information for clearance.

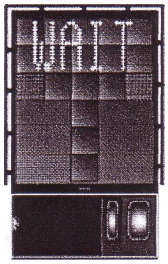
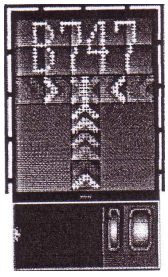
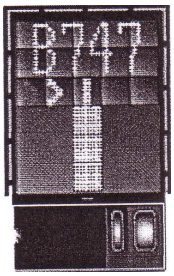
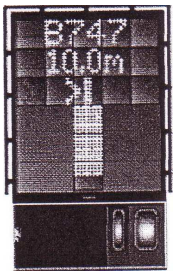
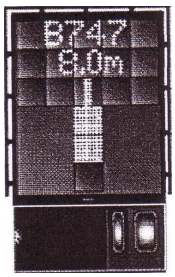
b) Item to check before entering the stand area

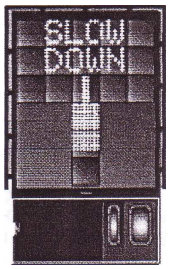
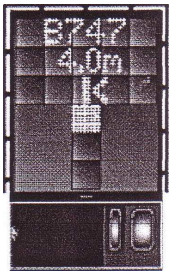
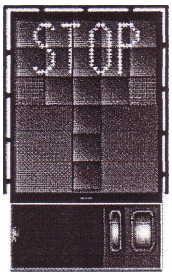
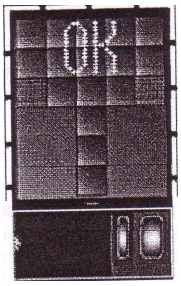
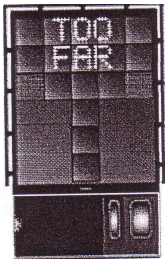
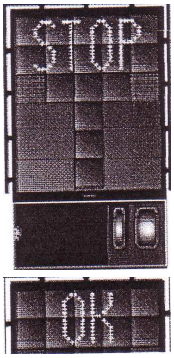
Warning: The pilot shall not enter the stand area, unless the docking system first is showing the vertical running arrows. The pilot must not proceed beyond the bridge, unless these arrows have been superseded by the closing rate bar.

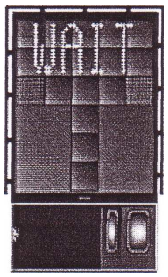
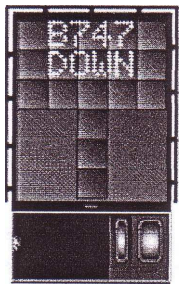
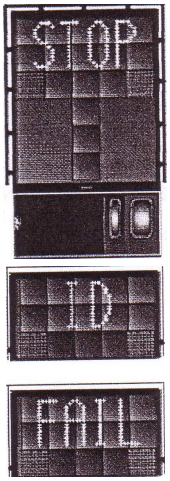
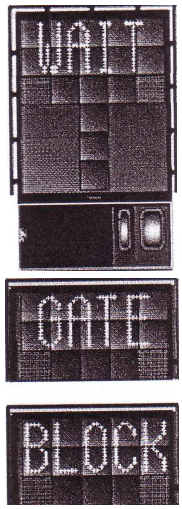
Warning: The pilot shall not enter the stand area, unless the aircraft type displayed is equal to the approaching aircraft/ The Correctness of other information, such as 'door 2', shall also be checked.

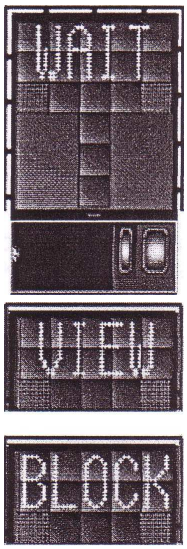
c) The SBU message

The message STOP SBU means that docking has been interrupted and has to be resumed only by manual guidance. Do not try to resume docking without manual guidance.

| | |
|---|---|
|  | 4.2.2 START-OF-DOCKING<br><br>The system is started by pressing one of the aircraft type buttons on the operator panel. When the button has been pressed, WAIT will be displayed. |
|  | 4.2.3 CAPTURE<br><br>The floating arrows indicate that the system is activated and in capture mode, searching for an approaching aircraft.<br>If shall be checked that the correct aircraft type is displayed. The lead-in line shall be followed.<br>The pilot must not proceed beyond the bridge, unless the arrows have been superseded by closing rate bar. |
|  | 4.2.4TRACKING<br><br>When the aircraft has been caught by the laser, the floating arrow is replaced by the yellow centre line indicator.<br>A flashing red arrow indicates the direction to turn.<br>The vertical yellow arrow shows position in relation to the centre line. This indicator give correct position and azimuth guidance. |
|  | 4.2.5CLOSING RATE<br><br>Display of digital countdown will start when the aircraft is 20 M from stop position.<br>When the aircraft is less than 12 M from the stop position, the closing rate is indicated by turning off one row of the centre line symbol per 0.5 M, covered by the aircraft. Thus, when the last row is turned off, 0.5 M remains to stop. |
|  | 4.2.6 ALIGNED TO CENTRE<br><br>The aircraft is 8 M from the stop position. The absence of any direction arrow indicates an aircraft on the centre line. |

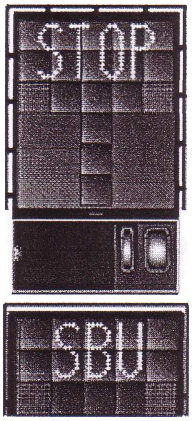
| | |
|---|---|
|  | 4.2.7 SLOW DOWN.<br><br>If the aircraft is approaching faster than the accepted speed, the system will show SLOW DOWN as a warning to the pilot |
|  | 4.2.8 AZIMUTH GUIDANCE.<br><br>The aircraft is 4 M from the stop-position. The yellow arrow indicates an aircraft to the right of the centre line, and the red flashing arrow indicates the direction to turn. |
|  | 4.2.9 STOP POSITION REACHED.<br><br>When the correct stop-position is reached, the display will show STOP and red lights will be lit. |
|  | 4.2.10 DOCKING COMPLETE.<br><br>When the aircraft has parked, OK will be displayed. |
|  | 4.2.11 OVERSHOOT.<br><br>If the aircraft overshoot the stop-position, TOO FAR will be displayed. |
|  | 4.2.12 STOP SHORT.<br><br>If the aircraft is found standing still but has not reached the intended stop position, the message STOP OK will be shown after a while. |

| | |
|---|---|
|  | 4.2.13 WAIT.<br><br>If some object is blocking the view toward the approaching aircraft or the detected aircraft is lost during docking, before 12 M to STOP, the display will show WAIT. The docking will continue as soon as the blocking object has disappeared or the system detects the aircraft again.<br>As the aircraft is approaching the stop position, the aircraft geometry is being checked. If, for any reason, aircraft verification is not made 12 M before the stop-position, the display will show WAIT, STOP and ID FAIL. The text will be alternating on the upper two row of the display.<br>The pilot must not proceed beyond the bridge, unless the “WAIT” message has been superseded by the closing rate bar. |
|  | 4.2.14 BAD WEATHER CONDITION.<br><br>During heavy fog, rain or snow, the visibility for the docking system can be reduced.<br>When the system is activated and in capture mode, the display will deactivate the floating arrows and show DOWN GRADE.<br>This message will be superseded by the closing rate bar, as soon as the System detects the approaching aircraft.<br>The pilot must not proceed beyond the bridge, unless the DOWN GRADE text has been superseded by the closing rate bar. |
|  | 4.2.15 AIRCRAFT VERIFICATION FAILURE.<br><br>During entry into the stand, the aircraft geometry is being checked. If, for any reason, aircraft verification is not made 40 FT metres before the stop-position, the display will first show WAIT and make a second verification check. If this fails STOP and ID FAIL will be displayed. The text will be alternating on the upper two rows of the display.<br>The pilot must not proceed beyond the bridge without manual guidance, unless the WAIT message has been superseded by the closing rate bar. |
|  | 4.2.16 GATE BLOCKED.<br><br>If an object is found blocking the view from the DGS to the planned stop position for the aircraft, the docking procedure will be halted with a GATE BLOCK message. The docking procedure will resume as soon as the blocking object has been removed.<br>The pilot must not proceed beyond the bridge without manual guidance, unless the WAIT message has been superseded by the closing rate bar. |



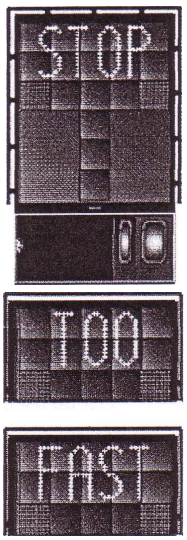

4.2.17 VIEW BLOCKED

If the view towards the approaching aircraft is hindered for instance by dirt on the window, the DGS will report a view block condition. Once the system is able to see the aircraft through the dirt, the message will be replaced with a closing rate display.
The pilot must not proceed beyond the bridge without manual guidance, unless the WAIT message has been superseded by the closing rate bar



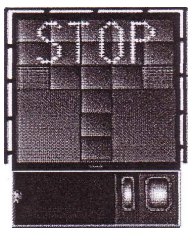

4.2.18 SBU-STOP

Any unrecoverable error during the docking procedure will generate an SBU condition. The display will show red stop bar and the text STOP SBU.
A manual backup procedure must be used for docking guidance.



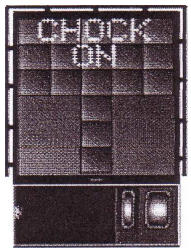
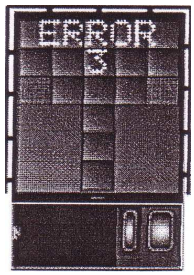
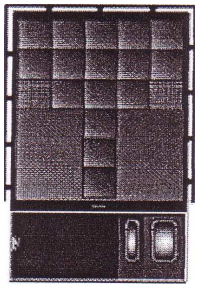

4.2.19 TOO FAST

If the aircraft approaches with a speed higher than the docking system can handle, the message STOP (with red squares) and TOO FAST will be displayed.
The docking system must be re-started or docking procedure completed by manual guidance.




4.2.20 EMERGENCY STOP

When the emergency stop button is pressed, STOP is displayed.

| | |
|---|---|
|  | 4.2.21 CHOCKS ON<br><br>CHOCK ON will be displayed, when the ground staff has put the chocks in front of the nose wheel and pressed the “Chocks On” button on the operator panel. |
|  | 4.2.22 ERROR<br><br>If a system error occurs, the message ERROR is display with an error code. The code is used for maintenance purposes and explained else where. |
|  | 4.2.23 SYSTEM BREAKDOWN<br><br>In case of a severe system failure, the display will go black, except for a red stop indicator. A manual backup procedure must be used for docking guidance.<br>POWER FAILURE<br>In case of a power failure, the display will be completely black. A manual backup procedure must be used for docking guidance. |

**VTCC AD 2.21 NOISE ABATEMENT PROCEDURES**

NIL

**VTCC AD 2.22 FLIGHT PROCEDURE**

**1. IMPLEMENTATION OF THE CONTINUOUS DESCENT OPERATIONS (CDO)FOR ARRIVALS INTO CHIANG MAI INTERNATIONAL AIRPORT**

1.1 Introduction

1.1.1 As part of AEROTHAI’s ongoing efforts to improve operational efficiency and air traffic management, Continuous Descent Operations (CDO) will commence from 0000 UTC on 19 September 2013 with trial period from 0000 UTC on 18 August 2013 until 2359 UTC on 18 September 2013. CDO is an operation, enabled by airspace design, procedure design and ATC facilitation, in which an aircraft descends continuously, to the greatest possible extent, by employing minimum engine thrust, ideally in a low drag configuration, prior to Final Approach Fix / Final Approach Point

1.1.2 Vertical profile of CDO aims to improve flight stability (minimal level-off), increase terrain safety, ensure environmental friendly procedures by reducing aircraft noise, fuel consumption and emissions, enhance flight punctuality and predictability, as well as other economic benefits for flights into Chiang Mai International Airport

1.2 Condition of Use

1.2.1 Conditions for Conducting a CDO

1.2.1.1 CDO application must be under surveillance environment.

1.2.1.2 CDO can be requested by pilot or initiated by ATC

Pilot should request CDO at least 5 minutes prior to reaching Top of Descent (TOD) for any type of approach.

***Note:*** *1.There is limited benefit if CDO clearance is received at altitude lower than 10,000 FT.*

***Note:*** *2.In case of CDO procedure being impractical due to an emergency, weather condition, traffic situation or any other reasons, an alternate instruction will be issued by ATC, or requested by pilot.*

1.2.2 Application of Other ATC Procedures

1.2.2.1 When conducting CDO, standard ATC procedures continue to apply. ATC may issue clearance to an intermediate approach level

while facilitating a CDO profile.

1.2.2.2 In doing so, ATC shall endeavour to issue further descent clearance prior to the CDO flight reaching the last assigned altitude so as to prevent aircraft from levelling off.

1.2.3 Change of Runway-In-Use

1.2.3.1 In case of change on Runway-in-Use prior to aircraft reaching Final Approach Fix, i.e. from RWY36 to RWY18 CDO procedure shall be cancelled.

1.2.3.2 Pilot should then re-plan arrival route to the revised landing runway and inform ATC if the flight would still be able to meet all required speed/altitude restrictions

1.2.4 Aircraft Type

CDO procedure is applicable for any RNAV-capable aircraft.

1.2.5 Arrival Routes

CDO procedure is in place for all aircraft on A464 and Y6 inbound to Chiang Mai International Airport

1.2.6 Operations Time

CDO is available 24 hours.

***Note:*** *Refer to AIP Thailand for availability of Y6.*

1.2.7 Available Runway

CDO procedure is available for RWY36.

1.2.8 Types of Approach

1.2.8.1 ILS or LOC RWY36

1.2.8.2 RNAV (GNSS) RWY36

1.2.9 Speed

When traffic permits, aircraft will operate at an optimum speed calculated by FMS, depending on aircraft type. The following speed guidance should be applicable in case of high traffic volume.

| Flight Status | Speed Range |
|---|---|
| Above 10 000 FT | 250 - 320 IAS |
| Below 10 000 FT | 220 - 250 IAS |
| Final Segment (up to 4 NM) | 160 - 180 IAS |

1.2.10 Minimum Flight Altitude

1.2.10.1 Outside CMA TMA, aircraft shall comply with altitude constraints of the CDO procedure.

1.2.10.2 During CDO, minimum safety altitudes are identical to those within Instrument Approach Procedures requested.

1.3 CDO Procedure

1.3.1 Before aircraft reaching TOD (approximately 150 NM from the airport), either pilot or ATC can initiate CDO using phraseologies described in para 1.4

1.3.2 When all requirements for CDO are met and situation permits, CDO will commence.

1.3.3 Pilot shall operate aircraft FMS to plan optimal descent profile and report CDO execution upon commencing descent.

1.3.4 Aircraft should descend continuously on normal arrival route to Chiang Mai TMA

1.3.5 Longitudinal separation required will be at least 3 minutes between CDO traffic.

1.3.6 Operations without Vectoring

1.3.6.1 ILS or LOC RWY36 Procedure

a) Aircraft Arriving on A464

– After passing KEDOB (38 NM from CMA DVOR, altitude not lower than 9,000 FT) then proceed to TOONY (IAF) and follow the ILS or LOC RWY36 procedure as published in AIP Thailand, or
– After passing KEDOB (38 NM from CMA DVOR, altitude not lower than 9,000 FT), the pilot may request permission to fly directly to (IF); however, this would be an ATC's jurisdiction whether the request can be approved, depending on traffic conditions. In this case, the pilot shall fly directly to IF altitude 3,500 FT and cross 25 NM altitude not lower than 6,000 FT, following the ILS or LOC RWY36 procedure as published in AIP Thailand.

b) Aircraft Arriving on Y6

After passing MARNI (38 NM from CMA DVOR, altitude not lower than 9,000 FT), then direct IF altitude 3,500 FT and cross 25 NM altitude not lower than 6,000 FT, following the ILS or LOC RWY36 procedure as published in AIP Thailand

1.3.6.2 RNAV (GNSS) RWY36 Procedure

a) Aircraft Arriving on A464

– After passing KEDOB (38 NM from CMA DVOR, altitude not lower than 9,000 FT), then proceed to TOONY (IAF) and follow the RNAV(GNSS) RWY36 procedure as published in AIP Thailand, or

– After passing KEDOB (38 NM from CMA DVOR, altitude not lower than 9,000 FT), the pilot may request permission to fly directly to MAKOK (IF); however, this would be an ATC's jurisdiction whether the request can be approved, depending on traffic conditions. In this case, the pilot shall fly directly to MAKOK (IF) altitude 5,600FT and cross 25 NM altitude not lower than 6,600 FT, following the RNAV (GNSS) RWY36procedure as published in AIP Thailand.

b) Aircraft Arriving on Y6

After passing MARNI (38 NM from CMA DVOR, altitude not lower than 9,000 FT), then direct MAKOK (IF) altitude 5,600 FT and cross 25 NM altitude not lower than 6,600 FT, following the RNAV (GNSS) RWY36 procedure as published in AIP Thailand.

1.3.7 Operations under Vectoring

1.3.7.1 Pilot should receive CDO clearance at altitude not lower than 10,000 FT.

1.3.7.2 ATC shall provide vectoring guidance and distance to go for pilot

1.3.8 Radio Communications Failure

1.3.8.1 In the event of radio communication failure, CDO flight will be terminated immediately.

1.3.8.2 Pilot is to apply radio failure procedure stated in AIP Thailand ENR 1.6-6 para 6

1.4 Phraseology

1.4.1 The following phraseology enables clear and concise communications between pilot and controller to maintain safety of CDO arrivals

1.4.2 ATC-initiated CDO

"(aircraft call sign), (ATC unit), CDO AVAILABLE, DO YOU ACCEPT?"

1.4.3 Pilots response to ATC-initiated CDO

1.4.3.1 "(aircraft call sign), ACCEPT CDO"

1.4.3.2 "(aircraft call sign), NEGATIVE CDO"

1.4.4 Pilot-requested CDO

"(ATC Unit), (aircraft call sign), REQUEST CDO (type of approach) APPROACH RWY36"

1.4.5 Approval by Bangkok Area Control Centre

"(aircraft call sign), CLEARED DIRECT TO (point), CDO DESCEND [(level) or (altitude), QNH (number)]"

1.4.6 Denial from Bangkok Area Control Centre

1.4.6.1 “(aircraft call sign), NEGATIVE CDO, DUE TO (reason)”

1.4.6.2 “(aircraft call sign), EXPECT CDO FROM CHIANG MAI APPROACH”

1.4.7 Approval by Chiang Mai Approach Control Unit

1.4.7.1 “(aircraft call sign), DIRECT TO (point), DESCEND [(level) or (altitude), QNH (number)], CLEARED CDO (type of approach) APPROACH RWY36, REPORT ESTABLISHED”

1.4.7.2 “(aircraft call sign), DESCEND INITIALLY [(level) or (altitude), QNH (number)], CDO APPROVED”

1.4.8 When vectoring for CDO

“(aircraft call sign), VECTORING FOR CDO, FLY HEADING (number), DESCEND [(level) or (altitude), QNH (number)], TRACK MILE (number)”

1.4.9 CDO Cancellation

“(aircraft call sign), CANCEL CDO DUE TO (reason), (STOP) DESCEND [(level) or (altitude), QNH (number)]”

1.4.9.1 “(aircraft call sign), DUE TO (reason), CDO IS NOW TERMINATED”

1.4.10 Resuming CDO

“(aircraft call sign), RESUME CDO, DCT (point), DESCEND [(level) or (altitude), QNH (number)], CLEARED (type of approach) APPROACH RWY (number)”

1.4.11 Pilot report leaving

“(aircraft call sign), CDO LEAVING (level)”

1.4.12 Warning of aircraft below CDO profile

“(aircraft call sign), BELOW CDO PROFILE, ALTITUDE SHOULD BE (altitude) OR ABOVE”

1.5 Information / Training

1.5.1 Each airline must ensure that, for each type of aircraft, pilots are aware of CDO performance requirements

1.5.2 Airlines are expected to define strategy to be adopted to drag-generating parts extension to stabilize aircraft in landing configuration at an altitude in compliance with flight safety, taking into account glide path at 3° in Final Approach.

1.6 CDO Implementation

CDO for arrivals at Chiang Mai International Airport will be implemented with effect from 0000UTC on 19 September 2013.

**2. VFR HELICOPTER ROUTES WITHIN CHIANG MAI INTERNATIONAL AIRPORT AREA**

Helicopter Operating Procedures as follow;

2.1 Helicopters flying VFR shall operate on the VFR helicopter routes under VMC while entering, leaving or transiting over Chiang Mai controlled airspace, in accordance with the attached chart, except when directed by air traffic controllers.

2.2 Helicopters shall maintain 500 FT above ground level when following the VFR helicopter routes and make position reports of each reporting point on the VFR helicopter routes, unless otherwise advised by air traffic controllers.

2.3 Helicopters intending to fly via positions/points which not prescribed on the VFR helicopter routes shall advise air traffic controllers.

2.4 ATC instructions for helicopters operating on the VFR helicopter routes shall be issued as follows: (aircraft call sign) CLEARED TO (destination or point) VIA HELICOPTER ROUTES, MAINTAIN (altitude) REPORT ESTABLISHED [or REPORT OVER (point)]

2.5 Helicopters are responsible for obstacle and terrain clearance, if any manoeuvres deviate from the assigned VFR helicopter routes, regarding obstacle or terrain, the helicopter pilots shall advise air traffic controllers for such manoeuvres and, afterwards, resume on the VFR helicopter routes as soon as practicable.

2.6 Helicopters shall maintain own separation from other VFR traffic within Chiang Mai International Airport area, including Class G airspace. Air traffic controllers will provide traffic information, regarding known traffic, when available.

2.7 Air traffic controllers may instruct helicopters to fly via published VFR reporting points or instruct the helicopters to hold over any

positions/points deemed necessary, depending on traffic conditions.

2.8 If helicopters encounter visibility below VMC minima during flight, the helicopter pilots shall advise air traffic controllers without delay

2.9 Helicopters shall maintain two-way communication with Chiang Mai Tower or Chiang Mai Approach while in Chiang Mai controlled airspace and shall change over to other units only when instructed to do so by the controllers.

2.10 Before taking off from heliports or helipads within Chiang Mai controlled airspace, helicopters shall contact Chiang Mai Tower on frequency 118.1 MHZ or Chiang Mai Approachon frequency 129.6 MHZ. If such communication could not be done, helicopter pilots/operators shall use other available means, e.g. telephones, to receive departure instructions and necessary information prior to take-off.

2.11 After take-off, two-way radio communication shall be established as soon as possible. If helicopters are unable to contact the ATC units before reaching altitude 500 FT above ground level, e.g. due to communication equipment failure, the helicopters shall return to land for solving the problem and notify Chiang Mai Tower by telephone.

2.12 In case where helicopters departing from outside Chiang Mai controlled airspace are unable to contact Chiang Mai Approach or Chiang Mai Tower before entering Chiang Mai controlled airspace, the helicopters shall enter the VFR helicopter routes via the nearest reporting point and fly on the VFR helicopter routes to the destination as filed in the flight plan or as latest notified to air traffic controllers.

2.13 The completion of landings at heliports or helipads within Chiang Mai controlled airspace shall be notified to Chiang Mai Tower by radio or telephone as soon as practicable.

2.14 Table of VFR reporting points for helicopters within Chiang Mai Control Zone

| No. | Reporting Point | Landmark | Radial/DME from CMA VOR | Lat/Long |
|---|---|---|---|---|
| 1. | MAE RIM | Dararassamee Police Camp | R-354/9.0D | 185456.84N 985631.35E |
| 2. | MAE JO | Mae Jo Junction | R-021/8.1D | 185334.55N 990037.99E |
| 3. | PA LAN | Bor Hin Intersection | R-039/8.3D | 185228.96N 990305.72E |
| 4. | SAN NA MENG | West of the 8 Building | R-055/6.4D | 184945.62N 990305.78E |
| 5. | SAN KLANG | San Klang Village | R-088/5.2D | 184611.43N 990305.67E |
| 6. | BO SANG | Bo Sang Intersection | R-092/6.8D | 184550.47N 990452.92E |
| 7. | TOT | TOT Office Building | R-131/6.7D | 184139.58N 990305.75E |
| 8. | DOI TI | Doi Ti Junction | R-159/13.9D | 183259.96N 990305.68E |
| 9. | TON TONG | South of School | R-185/13.6D | 183220.64N 985639.70E |
| 10. | THA WANG PRAO | Tha Wang Prao Intersection | R-203/15.1D | 183150.66N 985146.99E |
| 11. | NAM PRAE | Reservoir | R-228/6.8D | 184121.00N 985226.00E |
| 12. | ROYAL FLORA | Royal Park Rajapruek | R-242/2.3D | 184449.59N 985531.47E |

2.15 VFR helicopter routes for departure and arrival at Chiang Mai International Airport (VTCC)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|
| VTCC – NORTHWEST BOUND AND NORTHBOUND | SAN KLANG | SAN NA MENG | PA LAN | MAE JO | MAE RIM |
| VTCC – NORTHEAST BOUND | SAN KLANG | SAN NA MENG | | | |
| VTCC – EASTBOUND | SAN KLANG | | | | |
| VTCC – SOUTHEAST BOUND AND SOUTHBOUND | SAN KLANG | TOT | DOI TI | | |
| VTCC – WESTBOUND AND SOUTHWEST BOUND | ROYAL FLO-RA | NAM PRAE | THA WANG PRAO | | |

2.16 VFR helicopter routes for departure and arrival at Dararassamee Police Camp (HDR) and Ban Rim Tai

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|---|
| HDR – EASTBOUND | MAE JO | PA LAN | SAN NA MENG | BO SANG | | |
| HDR – SOUTHEAST BOUND AND SOUTH-BOUND | MAE JO | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI |
| HDR – SOUTHWEST BOUND | MAE JO | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI |
| | TON TONG | THA WANG PRAO | | | | |

2.17 VFR helicopter routes for departure and arrival at Khun Nane (HKN) and Three King RTA Camp (HTK)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|---|
| HKN – NORTHEAST BOUND | PA LAN | | | | | |
| HKN – EASTBOUND | PA LAN | SAN NA MENG | BO SANG | | | |
| HKN – SOUTHEAST BOUND AND SOUTHBOUND | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI | |
| HDR – SOUTHWEST BOUND | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI | TON TONG |
| | THA WANG PRAO | | | | | |

2.18 VFR helicopter routes for departure and arrival at Pra Pin Klao RTA Camp (HPK) and Battalion Development 3 (HPN)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|---|
| HPK – NORTHWEST BOUND AND NORTH-BOUND | PA LAN | MAE JO | MAE RIM | | | |
| HPK – NORTHEAST BOUND | PA LAN | | | | | |
| HPK – EASTBOUND | PA LAN | SAN NA MENG | BO SANG | | | |
| HPK – SOUTHEAST BOUND AND SOUTH-BOUND | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI | |
| HPK – SOUTHWEST BOUND | PA LAN | SAN NA MENG | SAN KLANG | TOT | DOI TI | TON TONG |
| | THA WANG PRAO | | | | | |

2.19 VFR helicopter routes for departure and arrival at Phamuang Force, Nong Hor (HNH)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|---|
| HNH – WESTBOUND NORTHWEST BOUND AND NORTHBOUND | SAN NA MENG | PA LAN | MAE JO | MAE RIM | | |
| HNH – NORTHEAST BOUND | SAN NA MENG | | | | | |
| HNH – EASTBOUND | SAN NA MENG | BO SANG | | | | |
| HNH – SOUTHEAST BOUND AND SOUTH-BOUND | SAN NA MENG | SAN KLANG | TOT | DOI TI | | |
| HNH – SOUTHWEST BOUND | SAN NA MENG | SAN KLANG | TOT | DOI TI | TON TONG | THA WANG PRAO |

2.20 VFR helicopter routes for departure and arrival at Kawila RTA Camp (HKW) and Pa Dad helipad (HPD)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|
| HKW – NORTHWEST BOUND AND NORTH-BOUND | SAN KLANG | SAN NA MENG | PA LAN | MAE JO | MAE RIM |
| HKW – NORTHEAST BOUND | SAN KLANG | SAN NA MENG | | | |
| HKW – EASTBOUND | SAN KLANG | | | | |
| HKW – SOUTHEAST BOUND AND SOUTH-BOUND | SAN KLANG | TOT | DOI TI | | |
| HKW – SOUTHWEST BOUND | SAN KLANG | TOT | DOI TI | TON TONG | THA WANG PRAO |

2.21 VFR helicopter routes for departure and arrival at Rue See Base (HRS)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|
| HRS –NORTHBOUND | SAN KLANG | SAN NA MENG | PA LAN | MAE JO | MAE RIM |
| HRS – NORTHEAST BOUND | SAN KLANG | SAN NA MENG | | | |
| HRS – EASTBOUND | SAN KLANG | | | | |
| HRS – SOUTHBOUND SOUTHEAST BOUND AND SOUTHWEST BOUND | NAM PRAE | THA WANG PRAO | | | |

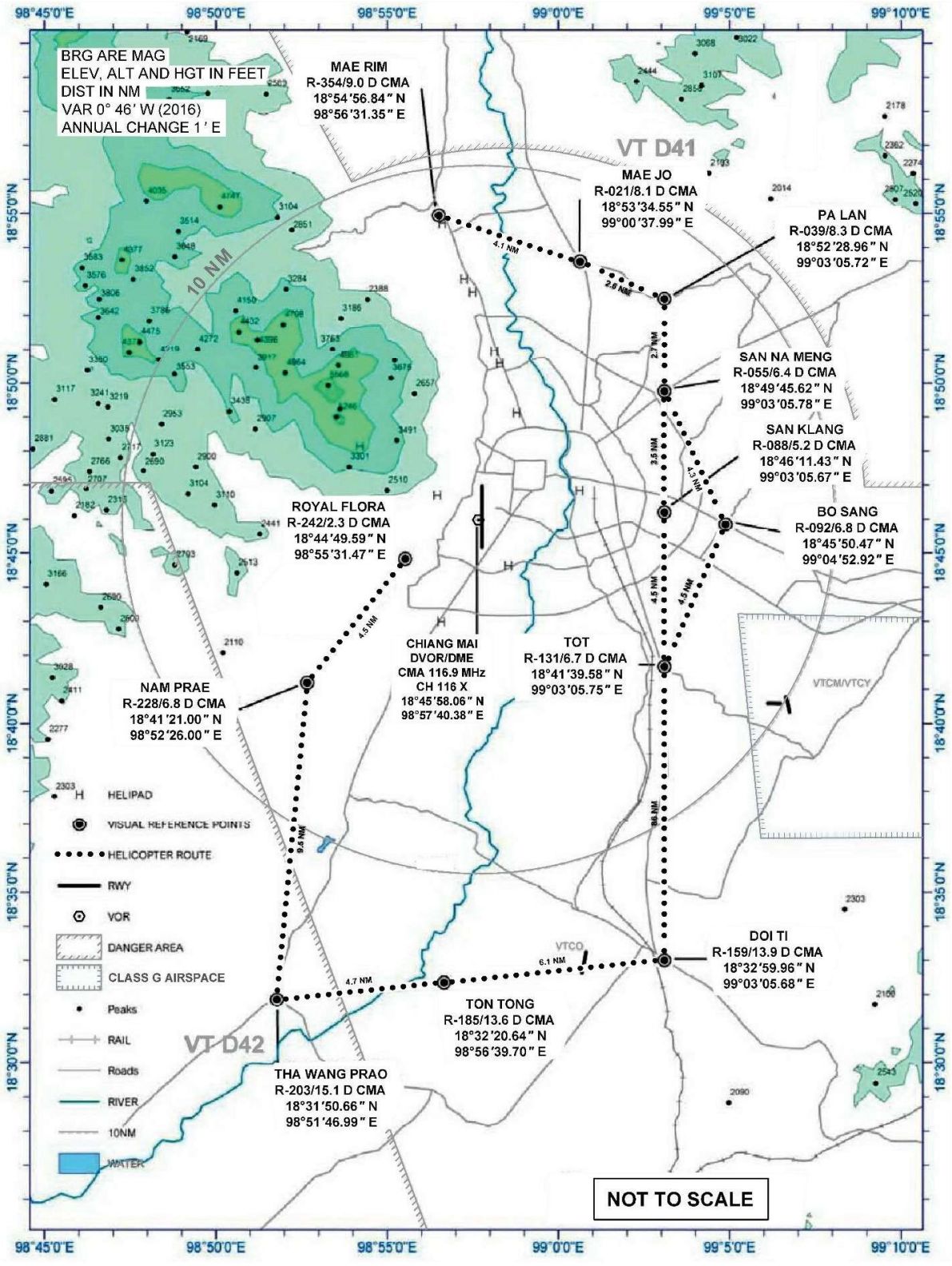
2.22 VFR helicopter routes for departure and arrival at EGAT Hang Dong (HEG)

| Direction of Flight | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point | Reporting Point |
|---|---|---|---|---|---|---|
| HEG – NORTHBOUND | TOT | SAN KLANG | SAN NA MENG | PA LAN | MAE JO | MAE RIM |
| HEG – NORTHEAST BOUND | TOT | SAN KLANG | SAN NA MENG | | | |
| HEG – EASTBOUND | TOT | SAN KLANG | | | | |
| HEG – SOUTHBOUND SOUTHEAST BOUND AND SOUTHWEST BOUND | NAM PRAE | THA WANG PRAO | | | | |

**HELICOPTER AERODROME ELEV 1036 ft**
**ROUTES**

APP : 129.6 , 305.4
TWR : 118.1 , 236.6

**CHIANG MAI / Chiang mai Intl (VTCC)**
**VMC ONLY**



## VTCC AD 2.23 ADDITIONAL INFORMATION

**1. Operation of all non-scheduled flight at Chiang Mai International Airport**

1.1 All aircrafts wishing to operate at Chiang Mai International Airport shall adhere to the following procedures

1.1.1 All flights, including flight selecting Chiang Mai International Airport as alternate aerodromes shall have handling agent at Chiang Mai International Airport.

1.1.2 Nose-in parking is applicable to all aircrafts.

1.1.3 All aircrafts ready to taxi out shall prepare their own tow bars.

**Remark :** Aircraft below letter “C” is allowed to self-manoeuvre but must inform to Chiang Mai International Airport before doing so. Moreover, aircraft below letter “C” shall be correctly bonded and correct earthing procedure shall be employed.

## VTCC AD 2.24 CHARTS RELATED TO AN AERODROME

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# AERODROME CHART - ICAO

18 46 17 N
98 57 46 E

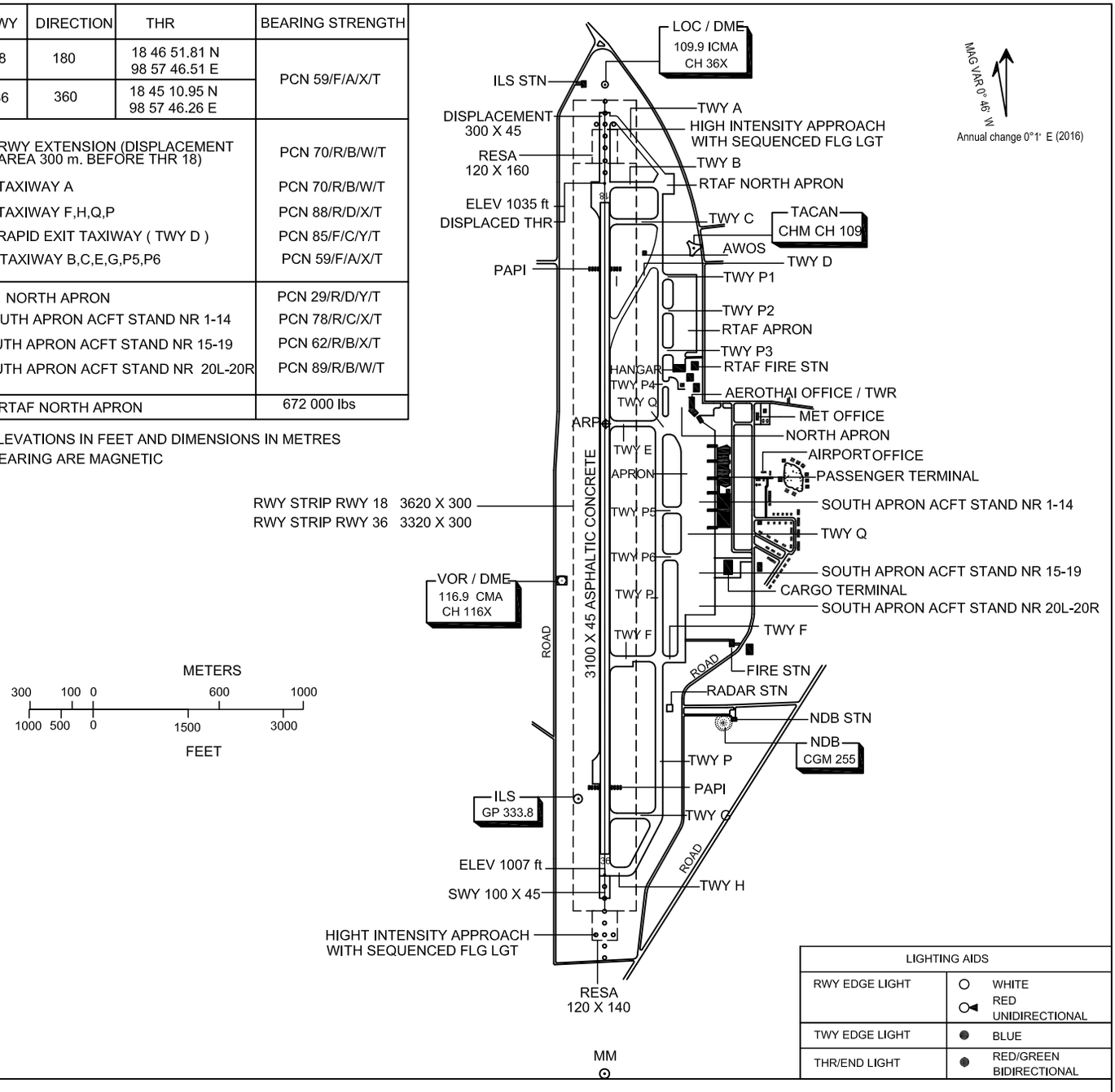
ELEV 1036 ft

TWR 118.1

## CHIANG MAI / Chiang Mai Intl

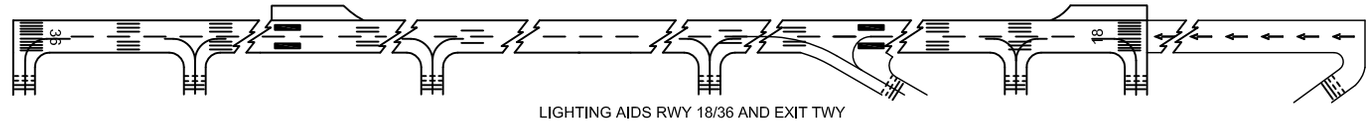
| RWY | DIRECTION | THR | BEARING STRENGTH |
|---|---|---|---|
| 18 | 180 | 18 46 51.81 N<br>98 57 46.51 E | PCN 59/F/A/X/T |
| 36 | 360 | 18 45 10.95 N<br>98 57 46.26 E | |
| RWY EXTENSION (DISPLACEMENT AREA 300 m. BEFORE THR 18) | | | PCN 70/R/B/W/T |
| TAXIWAY A | | | PCN 70/R/B/W/T |
| TAXIWAY F,H,Q,P | | | PCN 88/R/D/X/T |
| RAPID EXIT TAXIWAY ( TWY D ) | | | PCN 85/F/C/Y/T |
| TAXIWAY B,C,E,G,P5,P6 | | | PCN 59/F/A/X/T |
| NORTH APRON | | | PCN 29/R/D/Y/T |
| SOUTH APRON ACFT STAND NR 1-14 | | | PCN 78/R/C/X/T |
| SOUTH APRON ACFT STAND NR 15-19 | | | PCN 62/R/B/X/T |
| SOUTH APRON ACFT STAND NR 20L-20R | | | PCN 89/R/B/W/T |
| RTAF NORTH APRON | | | 672 000 lbs |

ELEVATIONS IN FEET AND DIMENSIONS IN METRES
BEARING ARE MAGNETIC

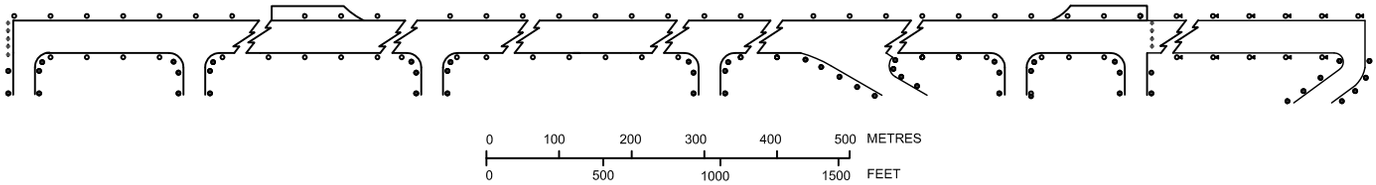



| LIGHTING AIDS | |
|---|---|
| RWY EDGE LIGHT | WHITE<br>RED<br>UNIDIRECTIONAL |
| TWY EDGE LIGHT | BLUE |
| THR/END LIGHT | RED/GREEN<br>BIDIRECTIONAL |

MARKING AIDS RWY 18/36 AND EXIT TWY




LIGHTING AIDS RWY 18/36 AND EXIT TWY



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# AIRCRAFT PARKING / DOCKING CHART - ICAO

**SOUTH APRON**
**ELEV 1020 ft**

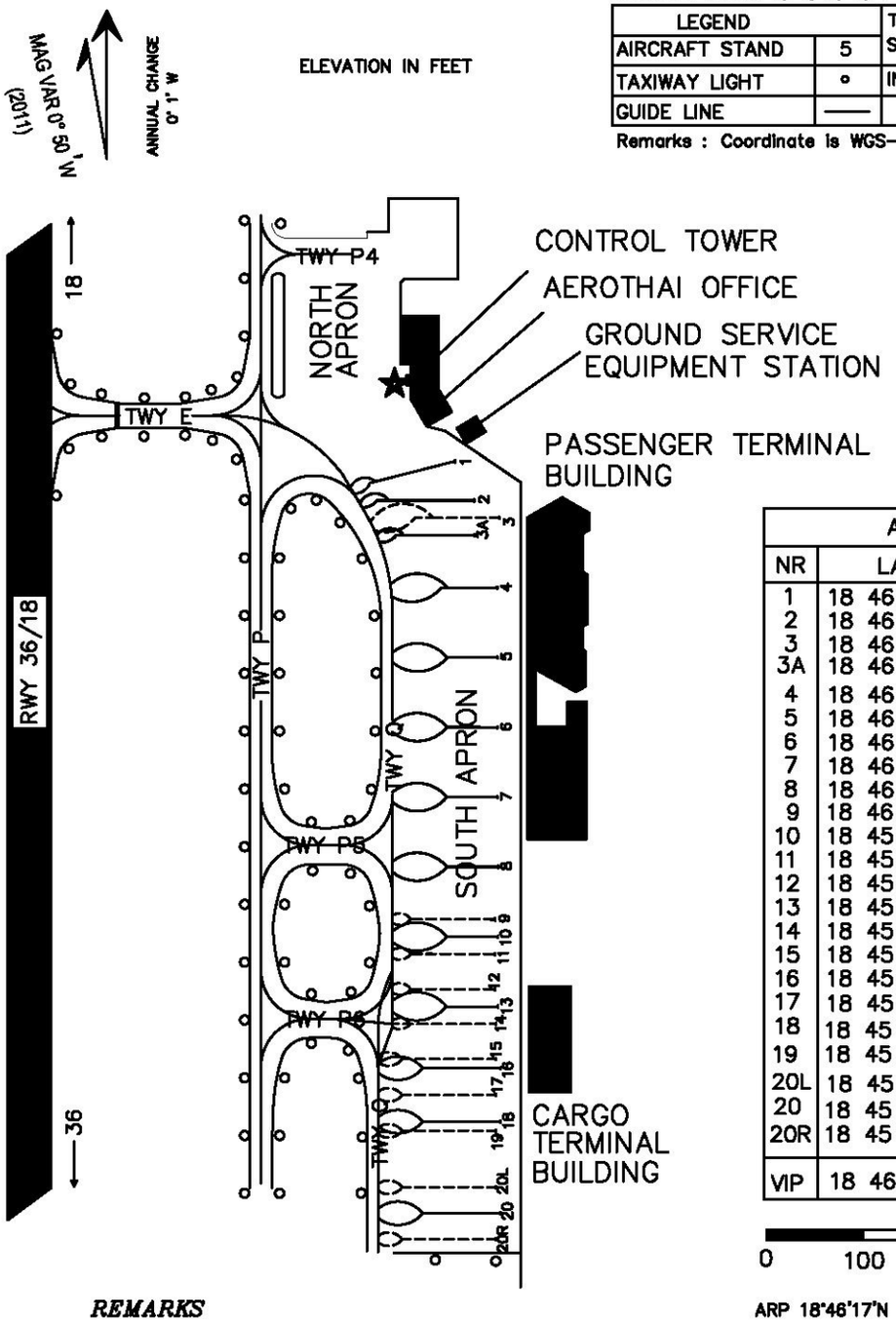
**TWR 118.1**
**GND 121.9**

**CHIANG MAI**
**CHIANG MAI / INTL**

AIRCRAFT STAND 3, 4, 5, 6, 7 AND 8 SAFEGATE DOCKING SYSTEM EQUIPPED

| LEGEND | | TAXIWAY AND APRON BEARING STRENGTH |
|---|---|---|
| AIRCRAFT STAND | 5 | |
| TAXIWAY LIGHT | ○ | INS COORDINATES FOR ACFT STAND |
| GUIDE LINE | —— | SEE VTCC AD 2-21 |

Remarks : Coordinate is WGS-84




| AIRCRAFT STAND COORDINATES | | | |
|---|---|---|---|
| NR | LAT (N) | LONG (E) | UP TO |
| 1 | 18 46 15.49 | 98 58 01.47 | ATR72 |
| 2 | 18 46 14.17 | 98 58 02.15 | B737 |
| 3 | 18 46 13.59 | 98 58 03.03 | B737 |
| 3A | 18 46 13.00 | 98 58 02.14 | B737 |
| 4 | 18 46 11.23 | 98 58 03.01 | B747-400 |
| 5 | 18 46 08.87 | 98 58 03.01 | B747-400 |
| 6 | 18 46 06.51 | 98 58 03.01 | B747 |
| 7 | 18 46 04.15 | 98 58 03.00 | B747-400 |
| 8 | 18 46 01.80 | 98 58 03.00 | B737 |
| 9 | 18 46 00.03 | 98 58 02.90 | B747-400 |
| 10 | 18 45 59.44 | 98 58 03.00 | B737 |
| 11 | 18 45 58.85 | 98 58 02.90 | B737 |
| 12 | 18 45 57.67 | 98 58 02.91 | B747-400 |
| 13 | 18 45 57.09 | 98 58 03.00 | B737 |
| 14 | 18 45 56.50 | 98 58 02.92 | B737 |
| 15 | 18 45 55.32 | 98 58 02.97 | B747-400 |
| 16 | 18 45 55.01 | 98 58 02.98 | B737 |
| 17 | 18 45 54.11 | 98 58 02.96 | B737 |
| 18 | 18 45 53.21 | 98 58 02.97 | A300 |
| 19 | 18 45 52.90 | 98 58 03.00 | B737 |
| 20L | 18 45 50.99 | 98 58 02.75 | |
| 20 | 18 45 50.11 | 98 58 02.75 | B747-400 |
| 20R | 18 45 49.23 | 98 58 02.74 | |
| VIP | 18 46 34.70 | 98 57 59.55 | |

0 100 200 300 m

ARP 18°46'17"N 98°57'46"E

***REMARKS***

- SOUTH APRON ACFT STAND NR 1-14 SURFACE AND STRENGTH : CONCRETE , PCN 78/R/C/X/T
- SOUTH APRON ACFT STAND NR 15-19 SURFACE AND STRENGTH : CONCRETE , PCN 62/R/B/X/T
- SOUTH APRON ACFT STAND NR 20L-20R SURFACE AND STRENGTH : CONCRETE , PCN 89/R/B/W/T
- ACFT STAND NR 3, 4, 5, 6, 7 AND 8 AVBL WITH SINGLE-END PASSENGER LOADING BRIDGES.
- ACFT STAND NR 3, 4, 5, 6, 7 AND 8 AVBL WITH SAFEGATE DOCKING SYSTEM
- ACFT STAND NR 2-20 AVBL WITH FUEL HYDRANT SYSTEM (JET A-1)

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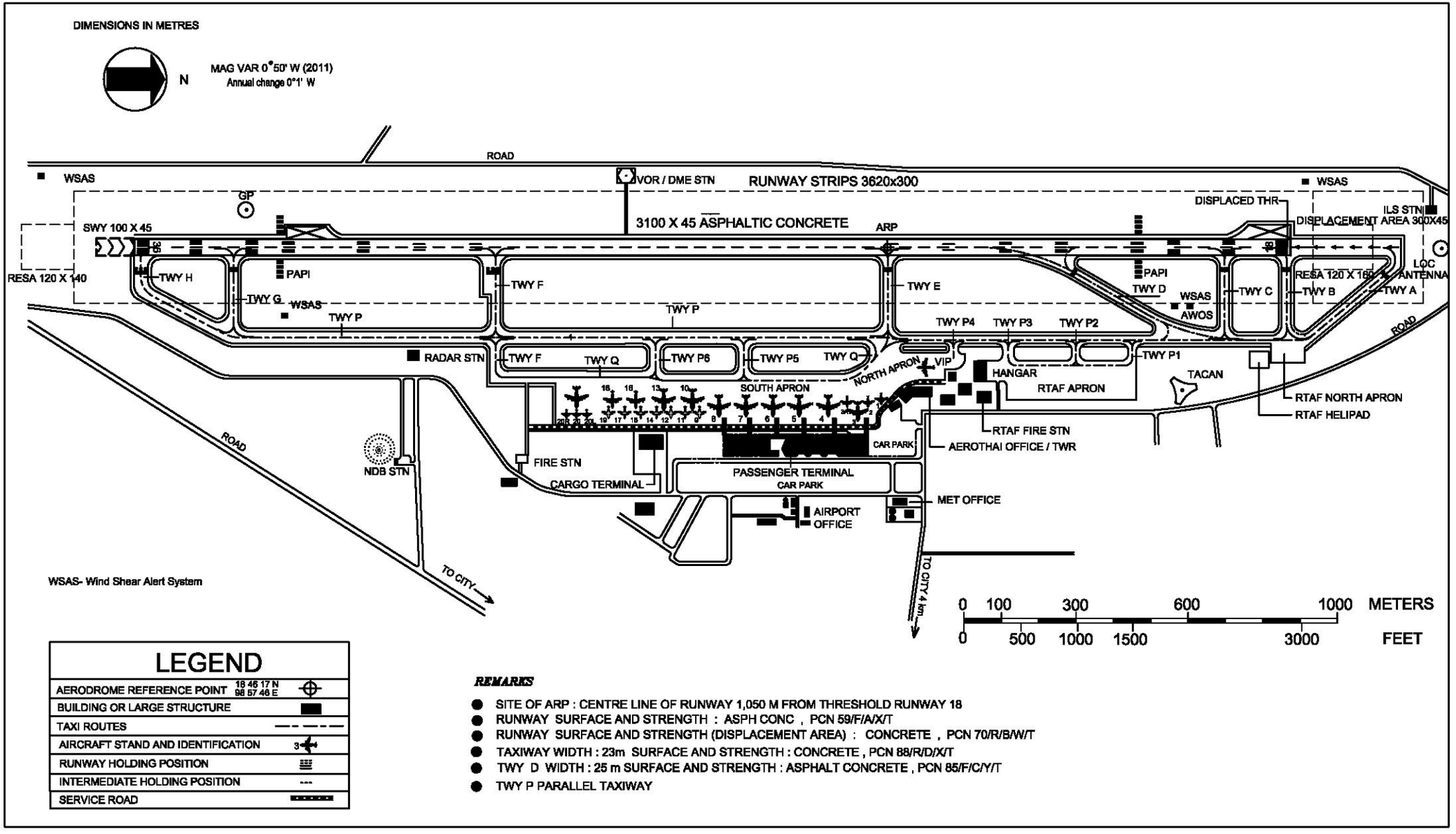
## AERODROME GROUND MOVEMENT CHART

## Chiangmai International Airport




| LEGEND | |
|---|---|
| AERODROME REFERENCE POINT 18 46 17 N 98 57 46 E | ⊕ |
| BUILDING OR LARGE STRUCTURE | ■ |
| TAXI ROUTES | — — — |
| AIRCRAFT STAND AND IDENTIFICATION | 3 |
| RUNWAY HOLDING POSITION | ≡ |
| INTERMEDIATE HOLDING POSITION | --- |
| SERVICE ROAD | |

***REMARKS***

- SITE OF ARP : CENTRE LINE OF RUNWAY 1,050 M FROM THRESHOLD RUNWAY 18
- RUNWAY SURFACE AND STRENGTH : ASPH CONC , PCN 59/F/A/X/T
- RUNWAY SURFACE AND STRENGTH (DISPLACEMENT AREA) : CONCRETE , PCN 70/R/B/W/T
- TAXIWAY WIDTH : 23m SURFACE AND STRENGTH : CONCRETE , PCN 88/R/D/X/T
- TWY D WIDTH : 25 m SURFACE AND STRENGTH : ASPHALT CONCRETE , PCN 85/F/C/Y/T
- TWY P PARALLEL TAXIWAY

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## AERODROME OBSTACLE CHART - ICAO

TYPE A (OPERATING LIMITATIONS)

## Chiangmai International Airport

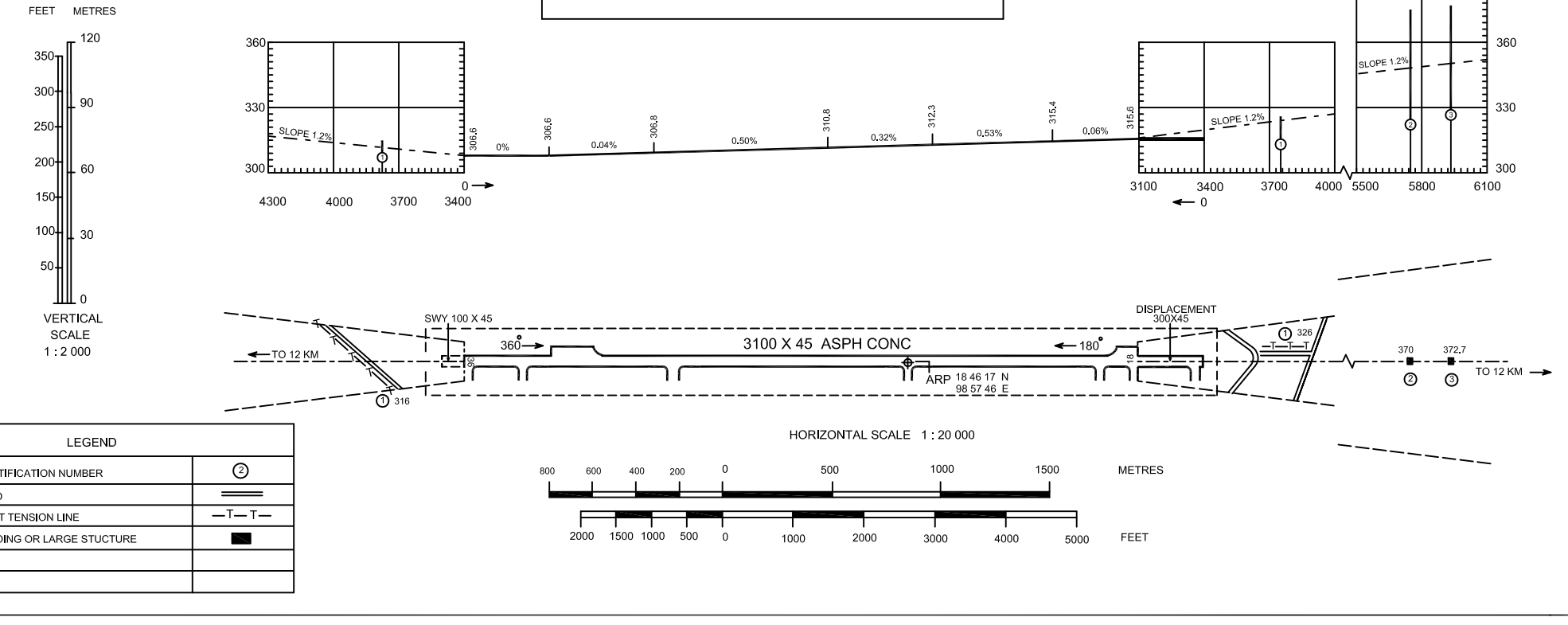
DIMENSIONS AND ELEVATIONS IN METRES

MAGNETIC VARIATION 0° 46' W (2016)

Annual Change 0° 1' E

**RWY 18 / 36**

| DECLARED DISTANCES | | |
|---|---|---|
| RWY 18 | | RWY 36 |
| 3400 | TAKE-OFF RUN AVAILABLE | 3100 |
| 3400 | TAKE-OFF DISTANCE AVAILABLE | 3100 |
| 3500 | ACCELERATE STOP DISTANCE AVAILABLE | 3100 |
| 3100 | LANDING DISTANCE AVAILABLE | 3100 |




| LEGEND | |
|---|---|
| IDENTIFICATION NUMBER | ② |
| ROAD | ═══ |
| HIGHT TENSION LINE | —T— T— |
| BUILDING OR LARGE STUCTURE | ■ |
| | |
| | |

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AREA CHART - ICAO

ARRIVAL AND TRANSIT ROUTES

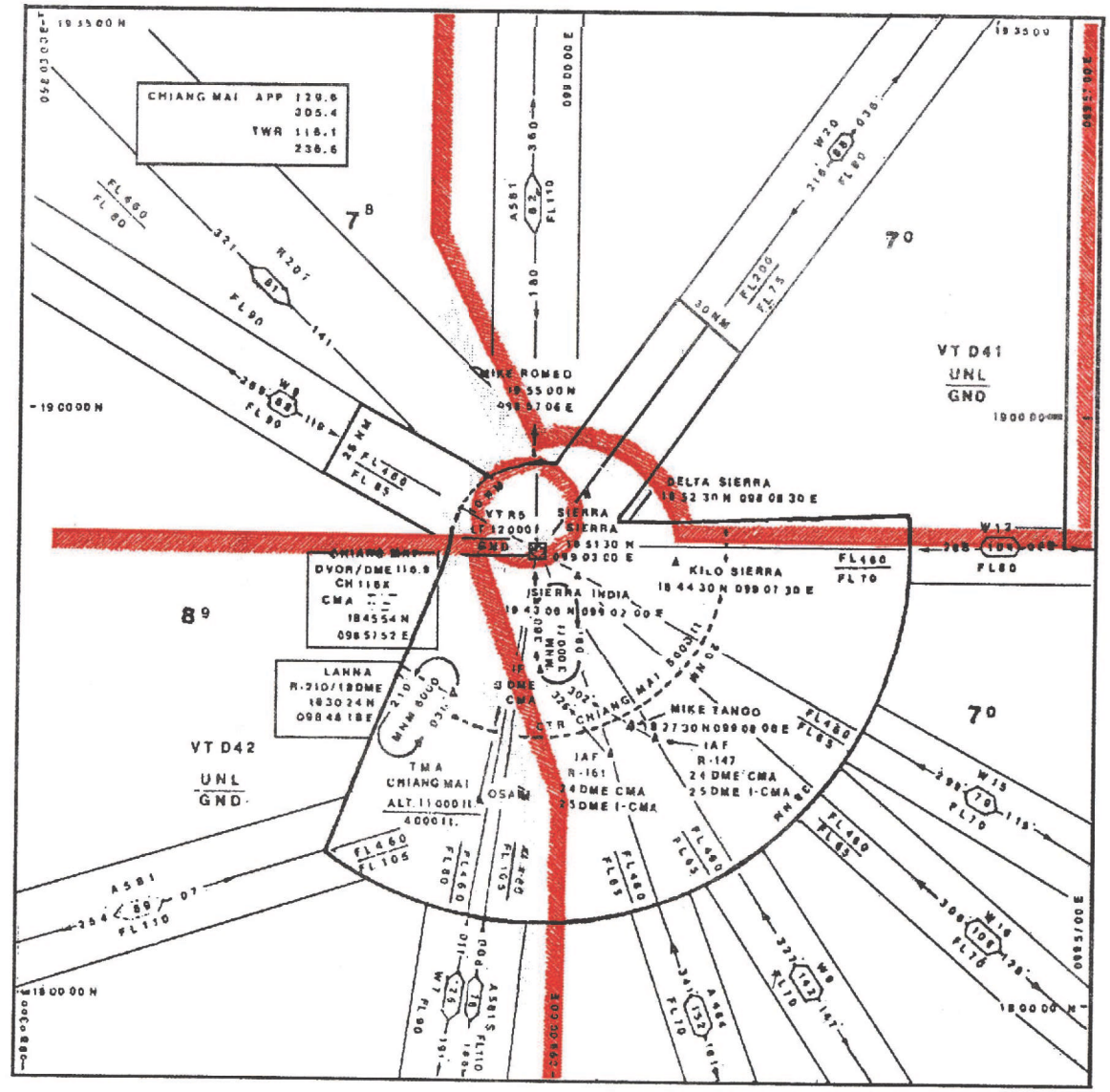
TMA CHIANG MAI

| LEGEND | |
|---|---|
| CONTROL AREA (TMA) AWY | |
| CONTROL ZONE | |
| REPORTING POINT (Compulsory / On request) | ▲ / △ |
| ARRIVAL AND DEPARTURE ROUTES<br>ATS ROUTES - INTERNATIONAL<br>ATS ROUTES - DOMESTIC | |
| DISTANCE IN NAUTICAL MILES | (143) |
| MINIMUM FLIGHT ALTITUDE | FL 70 |
| MAGNETIC BEARING | 150 |
| RADIO NAVIGATION AID — NAME, IDENTIFICATION AND FREQUENCY, CO-ORDINATES | CHIANG MAI DVOR/DME 115.3 CMA 18 45.9N 98 57.9E |

**Area minimum altitude (AMA)**

Each 1° quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1000 ft above all obstacles in the quadrilateral. It is represented in thousands and tens of feet above mean sea level.

Example : 2 300 feet 23



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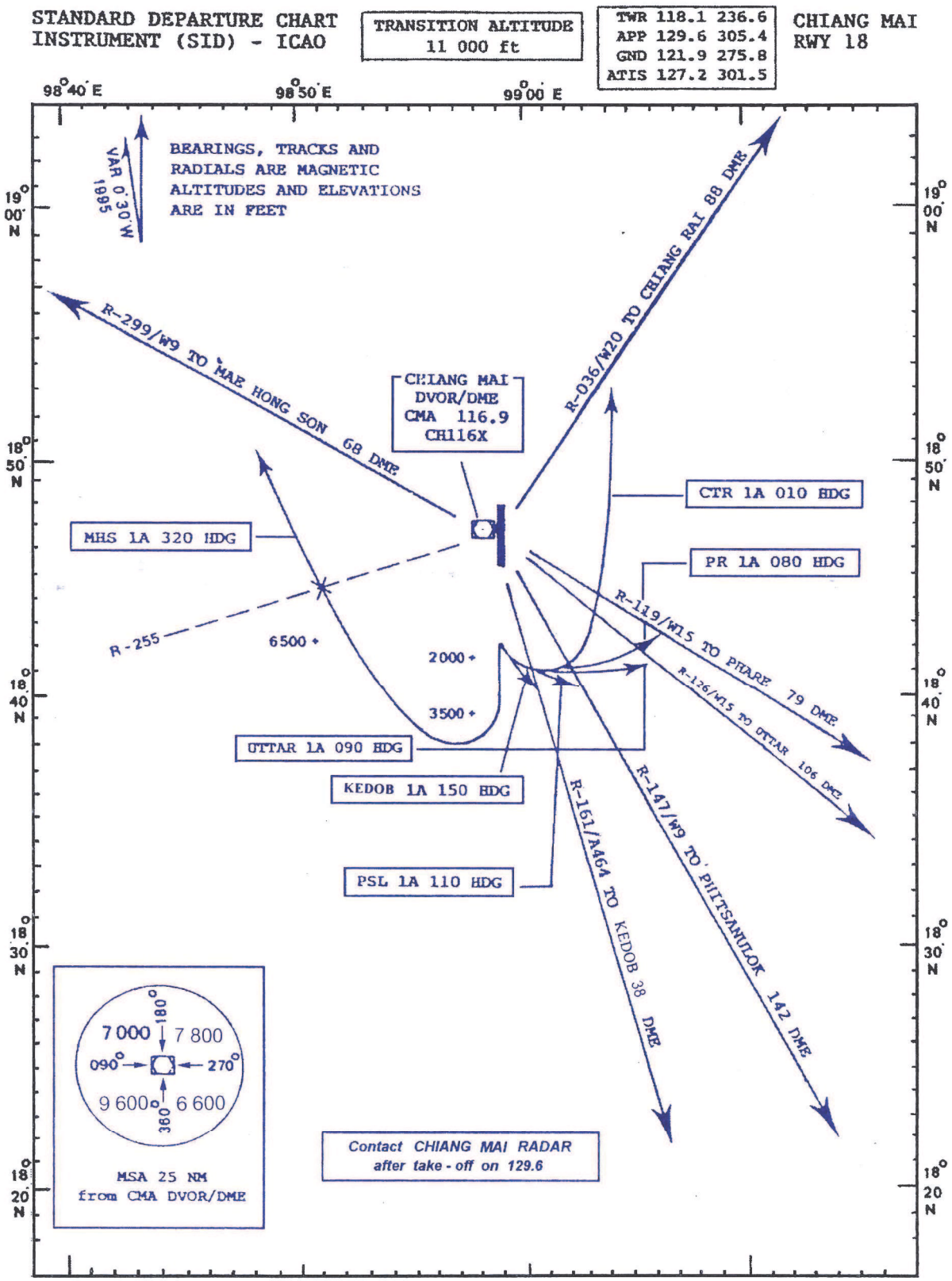
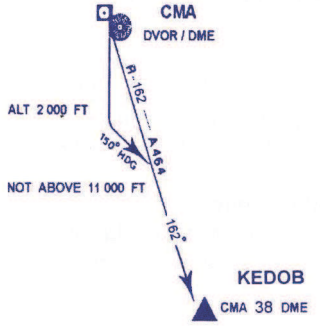

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO
TRANSITION ALTITUDE
11 000 ft
TWR 118.1 236.6
APP 129.6 305.4
GND 121.9 275.8
ATIS 127.2 301.5
CHIANG MAI
RWY 18
98°40' E
98°50' E
99°00' E
19°00' N
18°50' N
18°40' N
18°30' N
18°20' N
VAR 0°30'W 1995
BEARINGS, TRACKS AND RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET
R-299/W9 TO MAE HONG SON 68 DME
R-036/W20 TO CHIANG RAI 88 DME
CHIANG MAI DVOR/DME CMA 116.9 CH116X
CTR 1A 010 HDG
MHS 1A 320 HDG
PR 1A 080 HDG
R-255
6500 +
2000 +
3500 +
R-119/W15 TO PHARE 79 DME
R-126/W15 TO UTTAR 106 DME
UTTAR 1A 090 HDG
KEDOB 1A 150 HDG
PSL 1A 110 HDG
R-161/A464 TO KEDOB 38 DME
R-147/W9 TO PHITSANULOK 142 DME
180°
7 000
7 800
090°
270°
9 600
6 600
360°
MSA 25 NM
from CMA DVOR/DME
Contact CHIANG MAI RADAR
after take-off on 129.6

## STANDARD INSTRUMENT DEPARTURE (SID) CHIANG MAI INTERNATIONAL AIRPORT

### STANDARD INSTRUMENT DEPARTURE RUNWAY 18

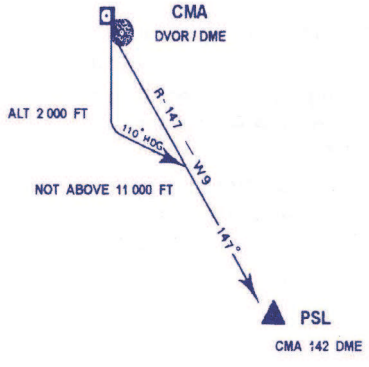
#### KEDOB ONE ALFA (KEDOB 1 A)

Take off, climb runway heading until 2 000 FT, or above, then turn left heading 150° to intercept and proceed on CMA R-162 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take off.



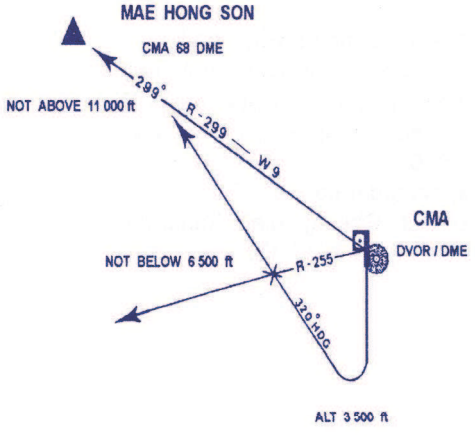

#### PHITSANULOK ONE ALFA (PSL 1 A)

Take off, climb runway heading until 2 000 ft, or above, then turn left heading 110° to intercept and proceed on CMA R-147 not above 11 000 ft. Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHz after take-off.




#### MAE HONG SON ONE ALFA (MHS 1 A)

Take off, climb runway heading until 3 500 ft, or above, then turn right heading 320° to cross CMA R-255 not below 6 500 ft, and intercept and proceed on CMA R-299 not above 11 000 ft.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHz after take-off.

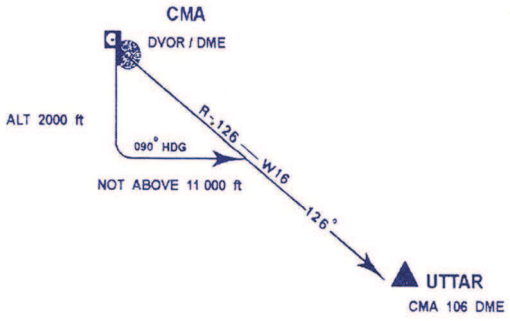


## STANDARD INSTRUMENT DEPARTURE (SID) CHIANG MAI INTERNATIONAL AIRPORT

### STANDARD INSTRUMENT DEPARTURE RUNWAY 18

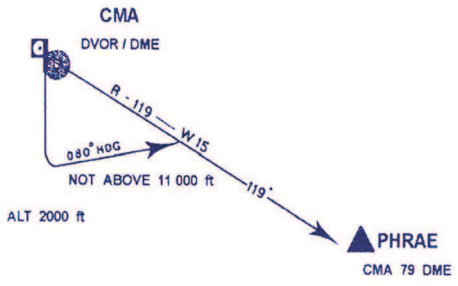
#### UTTAR ONE ALFA (UTTAR 1 A)

Take off, climb runway heading until 2 000 FT, or above, then turn left heading 090° to intercept and proceed on CMA R-126 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.



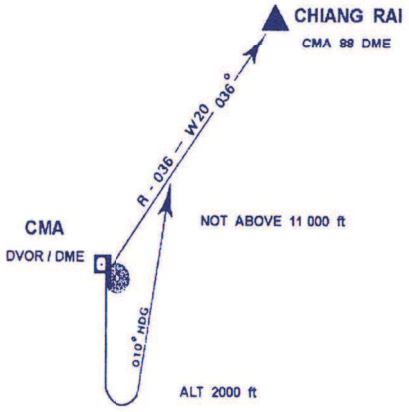

#### PHRAE ONE ALFA (PR 1 A)

Take off, climb runway heading until 2 000 FT, or above, then turn left heading 080° to intercept and proceed on CMA R-119 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.




#### CHIANG RAI ONE ALFA (CTR 1 A)

Take off, climb runway heading until 2 000 FT, or above, then turn left heading 010° to intercept and proceed on CMA R-036 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.



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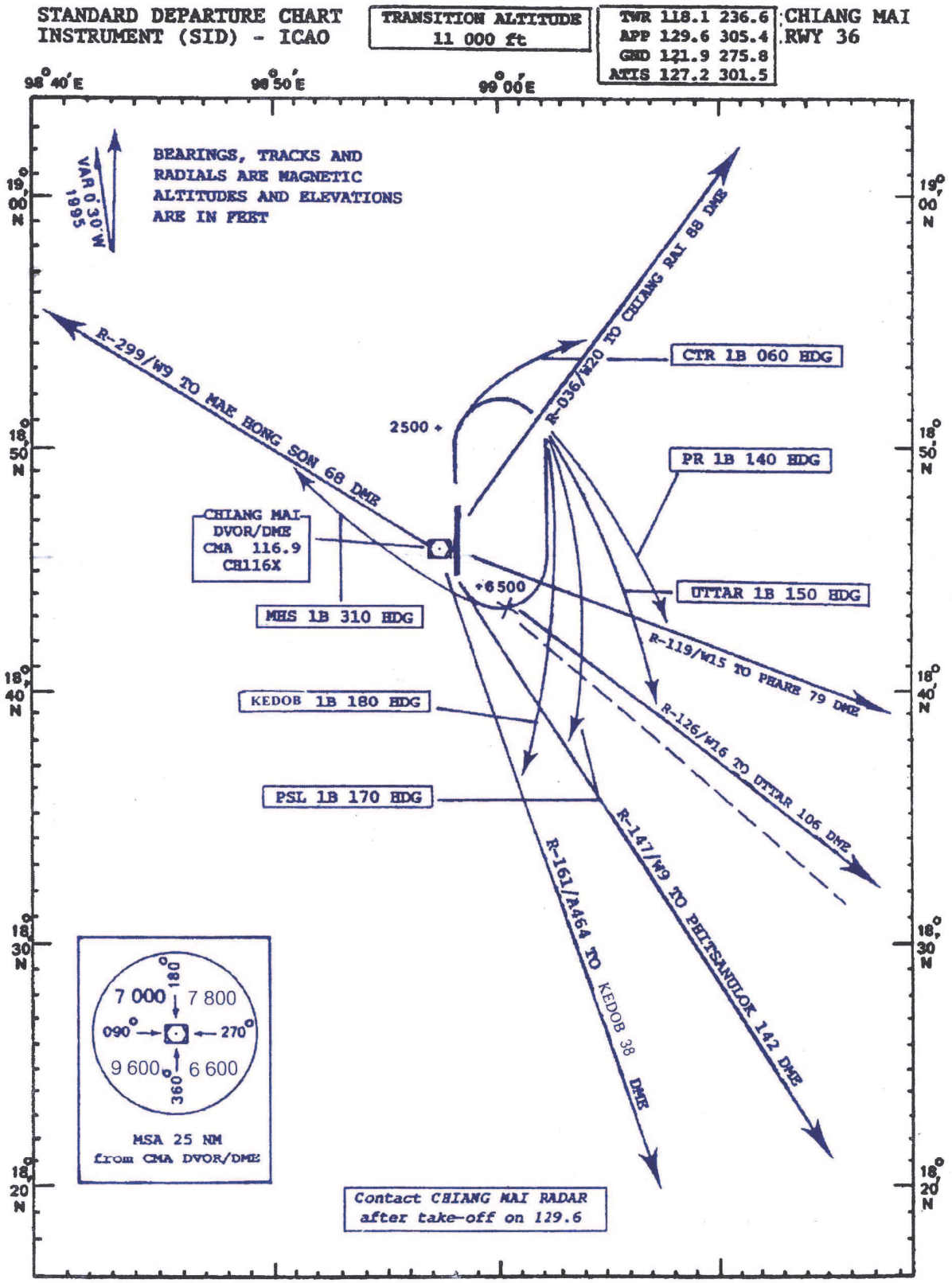
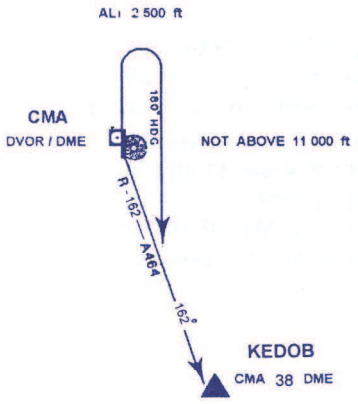

STANDARD DEPARTURE CHART
INSTRUMENT (SID) - ICAO
TRANSITION ALTITUDE
11 000 ft
TWR 118.1 236.6
APP 129.6 305.4
GND 121.9 275.8
ATIS 127.2 301.5
CHIANG MAI
RWY 36
98° 40' E
98° 50' E
99° 00' E
19° 00' N
18° 50' N
18° 40' N
18° 30' N
18° 20' N
VAR 0°30' W
1995
BEARINGS, TRACKS AND
RADIALS ARE MAGNETIC
ALTITUDES AND ELEVATIONS
ARE IN FEET
R-299/W9 TO MAE HONG SON 68 DME
R-036/W20 TO CHIANG RAI 68 DME
CTR 1B 060 HDG
2500 +
PR 1B 140 HDG
CHIANG MAI
DVOR/DME
CMA 116.9
CH116X
+6500
UTTAR 1B 150 HDG
MHS 1B 310 HDG
R-119/W15 TO PHARE 79 DME
KEDOB 1B 180 HDG
R-126/W16 TO UTTAR 106 DME
PSL 1B 170 HDG
R-147/W9 TO PHITSANULOK 142 DME
R-161/R464 TO KEDOB 38 DME
180°
7 000
7 800
090°
270°
9 600
6 600
360°
MSA 25 NM
from CMA DVOR/DME
Contact CHIANG MAI RADAR
after take-off on 129.6

## STANDARD INSTRUMENT DEPARTURE (SID) CHIANG MAI INTERNATIONAL AIRPORT

### STANDARD INSTRUMENT DEPARTURE RUNWAY 36

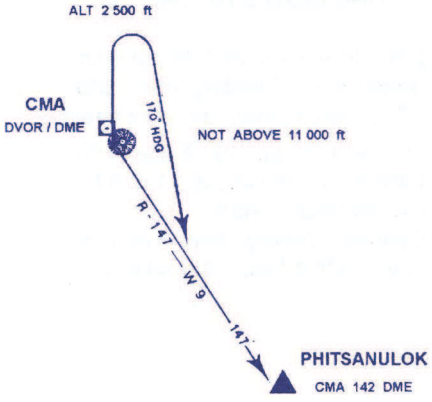
#### KEDOB ONE BRAVO (KEDOB 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 180° to intercept and proceed on CMA R-162 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.



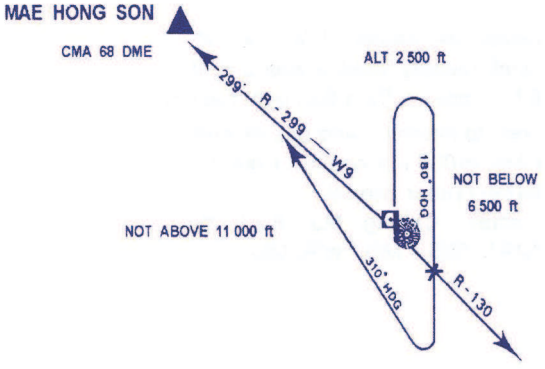

#### PHITSANULOK ONE BRAVO (PSL 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 170° to intercept and proceed on CMA R-147 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.




#### MAE HONG SON ONE BRAVO (MHS 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 180° to cross CMA R-130 not below 6 500 FT turn right heading 310° to intercept and proceed on CMA R-147 not above 11 000 FT.
Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.

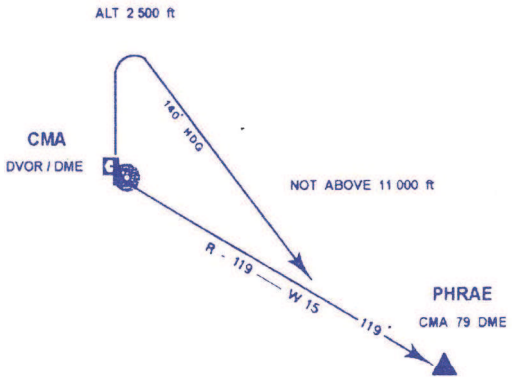


## STANDARD INSTRUMENT DEPARTURE (SID) CHIANG MAI INTERNATIONAL AIRPORT

### STANDARD INSTRUMENT DEPARTURE RUNWAY 36

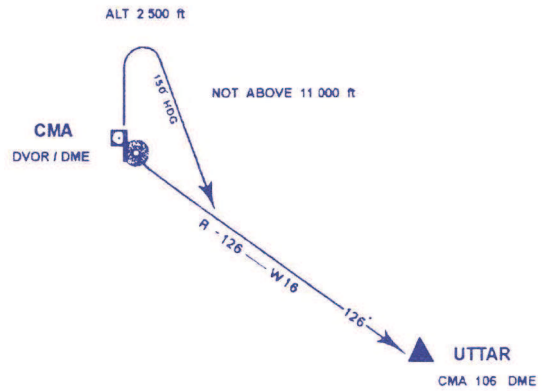
#### PHRAE ONE BRAVO (PR 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 140° to intercept and proceed on CMA R-119 not above 11 000 FT. Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.



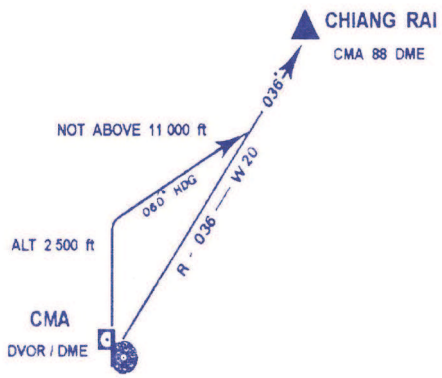

#### UTTAR ONE BRAVO (UTTAR 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 150° to intercept and proceed on CMA R-126 not above 11 000 FT. Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.




#### CHIANG RAI ONE BRAVO (CTR 1 B)

Departure gradient 3.3% take off, climb runway heading until 2 500 FT, or above, then turn right heading 060° to intercept and proceed on CMA R-036 not above 11 000 FT. Expect radar control.
Contact Chiang Mai Radar on 129.6, 305.4 MHZ after take-off.



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**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

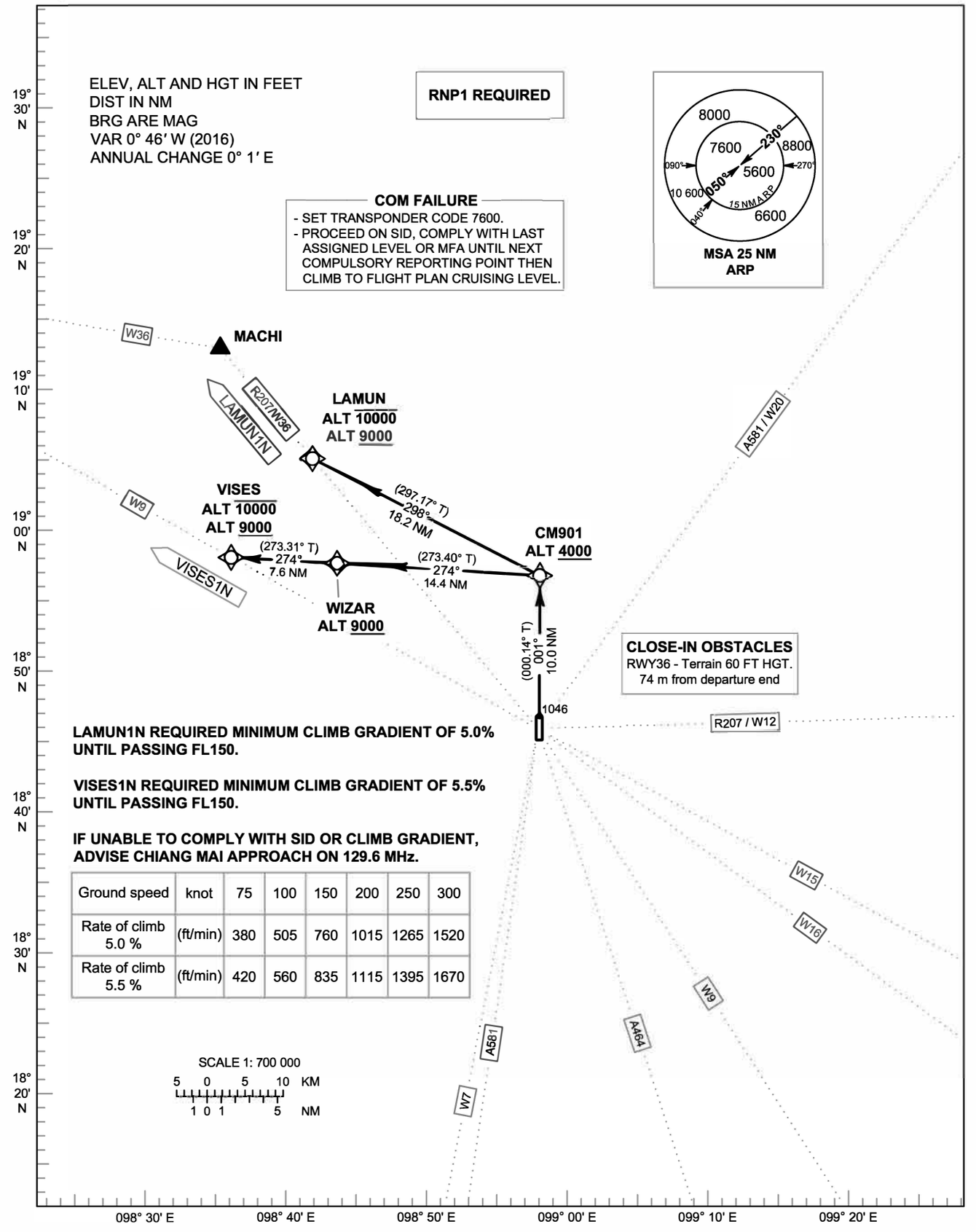
TRANSITION ALTITUDE
11000 FT

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1N VISES1N




| Ground speed | knot | 75 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|
| Rate of climb 5.0 % | (ft/min) | 380 | 505 | 760 | 1015 | 1265 | 1520 |
| Rate of climb 5.5 % | (ft/min) | 420 | 560 | 835 | 1115 | 1395 | 1670 |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1N VISES1N

TABULAR DESCRIPTION

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNP1 |
| 020 | CF | CM901 | - | 001°(000.14°) | +0.75 | 10.0 | L | +4000 | - | - | RNP1 |
| 030 | TF | LAMUN | - | 298°(297.17°) | +0.75 | 18.2 | - | +9000 ; -10000 | - | - | RNP1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNP1 |
| 020 | CF | CM901 | - | 001°(000.14°) | +0.75 | 10.0 | L | +4000 | - | - | RNP1 |
| 030 | TF | WIZAR | - | 274°(273.40°) | +0.75 | 14.4 | - | +9000 | - | - | RNP1 |
| 040 | TF | VISES | - | 274°(273.31°) | +0.75 | 7.6 | - | +9000 ; -10000 | - | - | RNP1 |

WAYPOINT LIST

**RNAV RWY36**

| Waypoint Identifier | Coordinates |
|---|---|
| DER RWY36 | 18° 46' 51.81" N 098° 57' 46.51" E |
| CM901 | 18° 56' 54.38" N 098° 57' 48.06" E |
| LAMUN | 19° 05' 13.14" N 098° 40' 44.26" E |
| WIZAR | 18° 57' 45.27" N 098° 42' 35.66" E |
| VISES | 18° 58' 11.41" N 098° 34' 38.14" E |

## STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

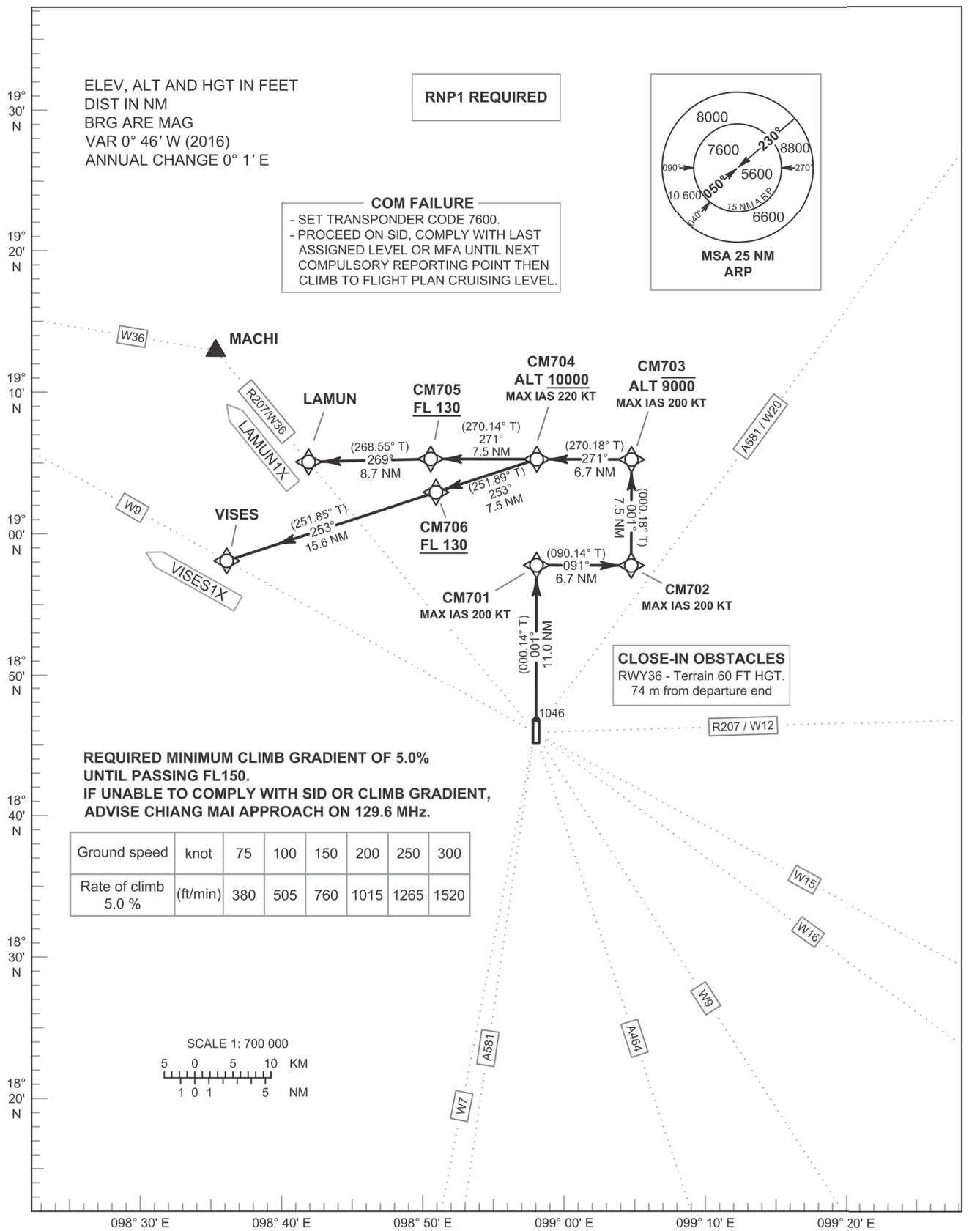
TRANSITION ALTITUDE
11000 FT

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1X VISES1X




| Ground speed | knot | 75 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|
| Rate of climb 5.0 % | (ft/min) | 380 | 505 | 760 | 1015 | 1265 | 1520 |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1X VISES1X

TABULAR DESCRIPTION

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNP1 |
| 020 | CF | CM701 | - | 001°(000.14°) | +0.75 | 11.0 | R | - | -200 | - | RNP1 |
| 030 | TF | CM702 | - | 091°(090.14°) | +0.75 | 6.7 | L | - | -200 | - | RNP1 |
| 040 | TF | CM703 | - | 001°(000.18°) | +0.75 | 7.5 | L | -9000 | -200 | - | RNP1 |
| 050 | TF | CM704 | - | 271°(270.18°) | +0.75 | 6.7 | - | +10000 | -220 | - | RNP1 |
| 060 | TF | CM705 | - | 271°(270.14°) | +0.75 | 7.5 | L | +FL130 | - | - | RNP1 |
| 070 | TF | LAMUN | - | 269°(268.55°) | +0.75 | 8.7 | - | - | - | - | RNP1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNP1 |
| 020 | CF | CM701 | - | 001°(000.14°) | +0.75 | 11.0 | R | - | -200 | - | RNP1 |
| 030 | TF | CM702 | - | 091°(090.14°) | +0.75 | 6.7 | L | - | -200 | - | RNP1 |
| 040 | TF | CM703 | - | 001°(000.18°) | +0.75 | 7.5 | L | -9000 | -200 | - | RNP1 |
| 050 | TF | CM704 | - | 271°(270.18°) | +0.75 | 6.7 | L | +10000 | -220 | - | RNP1 |
| 060 | TF | CM706 | - | 253°(251.89°) | +0.75 | 7.5 | - | +FL130 | - | - | RNP1 |
| 070 | TF | VISES | - | 253°(251.85°) | +0.75 | 15.6 | - | - | - | - | RNP1 |

WAYPOINT LIST

**RNAV RWY36**

| Waypoint Identifier | Coordinates |
|---|---|
| DER RWY36 | 18° 46' 51.81" N 098° 57' 46.51" E |
| CM701 | 18° 57' 54.63" N 098° 57' 48.21" E |
| CM702 | 18° 57' 53.52" N 099° 04' 52.54" E |
| CM703 | 19° 05' 24.59" N 099° 04' 54.02" E |
| CM704 | 19° 05' 25.71" N 098° 57' 49.37" E |
| CM705 | 19° 05' 26.64" N 098° 49' 54.01" E |
| LAMUN | 19° 05' 13.14" N 098° 40' 44.26" E |
| CM706 | 19° 03' 05.09" N 098° 50' 17.66" E |
| VISES | 18° 58' 11.41" N 098° 34' 38.14" E |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

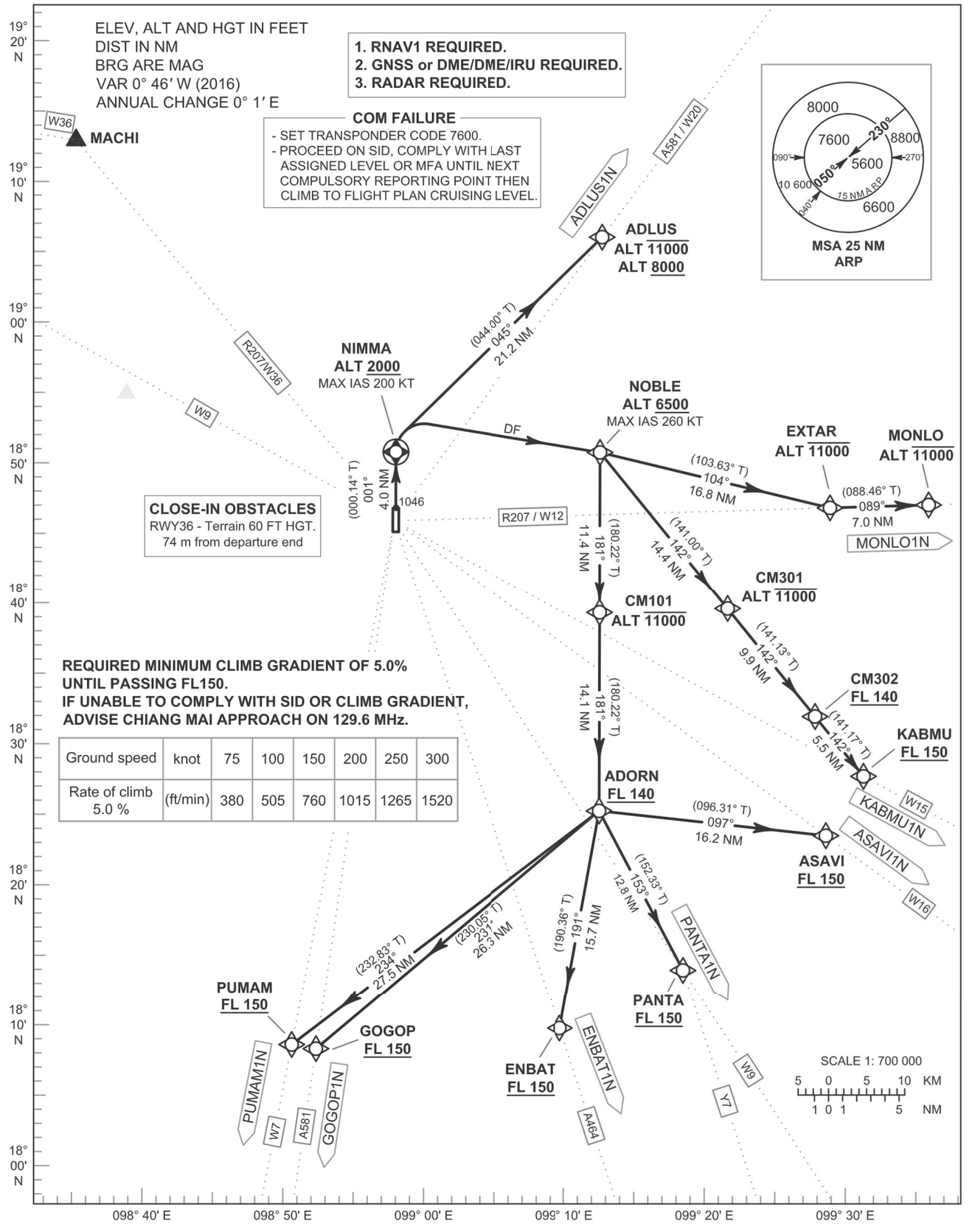
TRANSITION ALTITUDE
11000 FT

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1N ASAVI1N ENBAT1N GOGOP1N KABMU1N MONLO1N PANTA1N PUMAM1N




| Ground speed | knot | 75 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|
| Rate of climb 5.0 % | (ft/min) | 380 | 505 | 760 | 1015 | 1265 | 1520 |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1N ASAVI1N ENBAT1N GOGOP1N KABMU1N MONLO1N PANTA1N PUMAM1N

TABULAR DESCRIPTION (1)

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | TF | ADLUS | - | 045°(044.00°) | +0.75 | 21.2 | - | +8000 ; -11000 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM101 | - | 181°(180.22°) | +0.75 | 11.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | ADORN | - | 181°(180.22°) | +0.75 | 14.1 | L | +FL140 | - | - | RNAV1 |
| 060 | TF | ASAVI | - | 097°(096.31°) | +0.75 | 16.2 | - | +FL150 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM101 | - | 181°(180.22°) | +0.75 | 11.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | ADORN | - | 181°(180.22°) | +0.75 | 14.1 | R | +FL140 | - | - | RNAV1 |
| 060 | TF | ENBAT | - | 191°(190.36°) | +0.75 | 15.7 | - | +FL150 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM101 | - | 181°(180.22°) | +0.75 | 11.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | ADORN | - | 181°(180.22°) | +0.75 | 14.1 | R | +FL140 | - | - | RNAV1 |
| 060 | TF | GOGOP | - | 231°(230.05°) | +0.75 | 26.3 | - | +FL150 | - | - | RNAV1 |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1N ASAVI1N ENBAT1N GOGOP1N KABMU1N MONLO1N PANTA1N PUMAM1N

TABULAR DESCRIPTION (2)

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM301 | - | 142°(141.00°) | +0.75 | 14.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | CM302 | - | 142°(141.13°) | +0.75 | 9.9 | - | +FL140 | - | - | RNAV1 |
| 060 | TF | KABMU | - | 142°(141.17°) | +0.75 | 5.5 | - | +FL150 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | - | +6500 | -260 | - | RNAV1 |
| 040 | TF | EXTAR | - | 104°(103.63°) | +0.75 | 16.8 | L | -11000 | - | - | RNAV1 |
| 050 | TF | MONLO | - | 089°(088.46°) | +0.75 | 7.0 | - | -11000 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM101 | - | 181°(180.22°) | +0.75 | 11.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | ADORN | - | 181°(180.22°) | +0.75 | 14.1 | L | +FL140 | - | - | RNAV1 |
| 060 | TF | PANTA | - | 153°(152.33°) | +0.75 | 12.8 | - | +FL150 | - | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | - | DER RWY36 | - | - | +0.75 | - | - | - | - | - | RNAV1 |
| 020 | CF | NIMMA | Y | 001°(000.14°) | +0.75 | 4.0 | R | +2000 | -200 | - | RNAV1 |
| 030 | DF | NOBLE | - | - | +0.75 | - | R | +6500 | -260 | - | RNAV1 |
| 040 | TF | CM101 | - | 181°(180.22°) | +0.75 | 11.4 | - | -11000 | - | - | RNAV1 |
| 050 | TF | ADORN | - | 181°(180.22°) | +0.75 | 14.1 | R | +FL140 | - | - | RNAV1 |
| 060 | TF | PUMAM | - | 234°(232.83°) | +0.75 | 27.5 | - | +FL150 | - | - | RNAV1 |

**STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1N ASAVI1N ENBAT1N GOGOP1N KABMU1N MONLO1N PANTA1N PUMAM1N

WAYPOINT LIST

| **RNAV RWY36** | |
|---|---|
| Waypoint Identifier | Coordinates |
| DER RWY36 | 18° 46' 51.81" N 098° 57' 46.51" E |
| NIMMA | 18° 50' 52.84" N 098° 57' 47.13" E |
| ADLUS | 19° 06' 10.49" N 099° 13' 19.89" E |
| NOBLE | 18° 50' 50.07" N 099° 13' 08.96" E |
| EXTAR | 18° 46' 51.03" N 099° 30' 20.67" E |
| MONLO | 18° 47' 02.20" N 099° 37' 43.35" E |
| CM301 | 18° 39' 37.15" N 099° 22' 40.38" E |
| CM302 | 18° 31' 54.70" N 099° 29' 11.03" E |
| KABMU | 18° 27' 38.58" N 099° 32' 47.05" E |
| CM101 | 18° 39' 21.74" N 099° 13' 06.16" E |
| ADORN | 18° 25' 13.47" N 099° 13' 02.74" E |
| ASAVI | 18° 23' 25.51" N 099° 29' 57.88" E |
| PANTA | 18° 13' 51.17" N 099° 19' 17.05" E |
| ENBAT | 18° 09' 41.04" N 099° 10' 04.36" E |
| GOGOP | 18° 08' 12.79" N 098° 51' 49.68" E |
| PUMAM | 18° 08' 30.55" N 098° 50' 01.09" E |

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**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

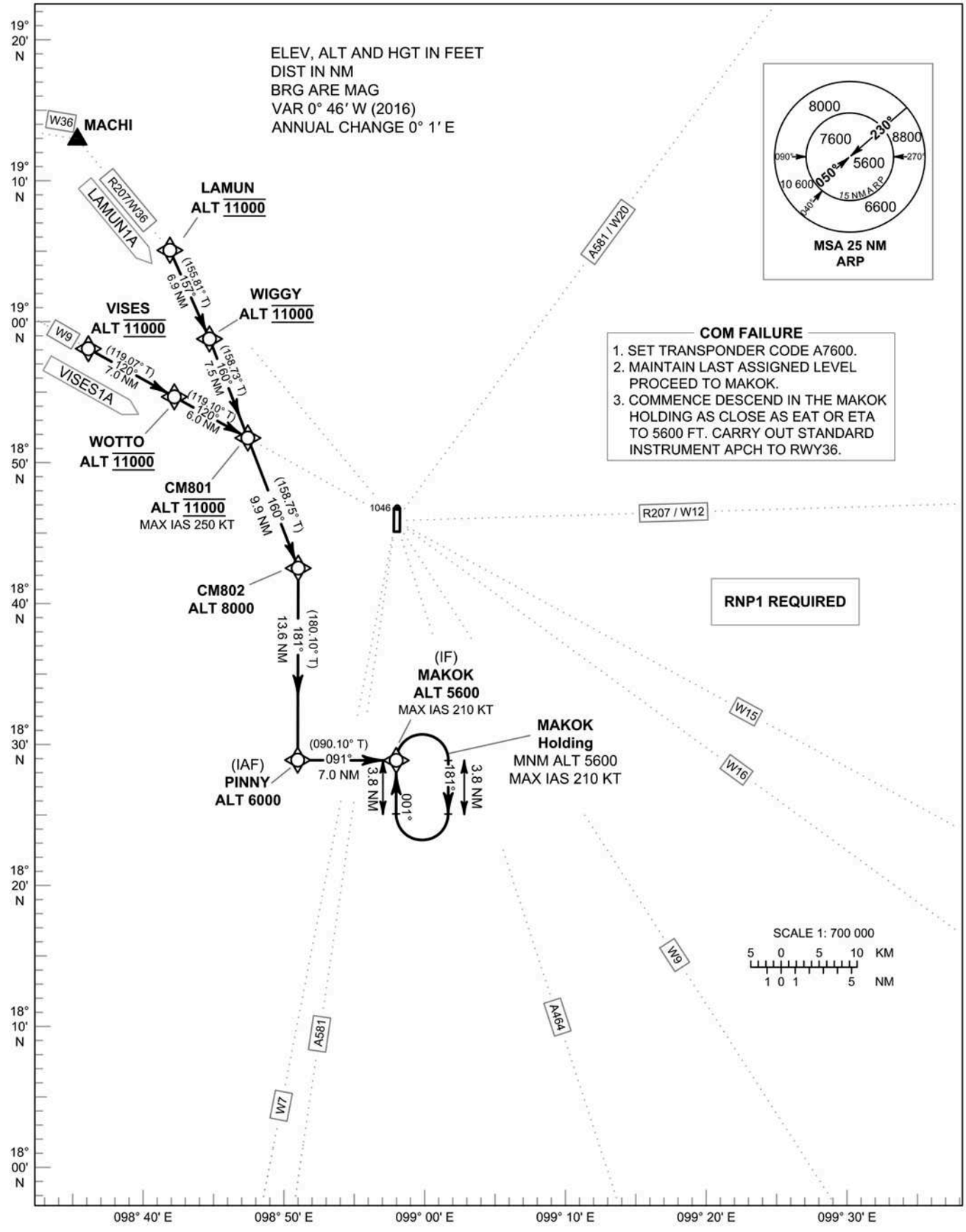
TRANSITION ALTITUDE
11000 FT

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1A VISES1A



**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

LAMUN1A VISES1A

TABULAR DESCRIPTION

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | LAMUN | - | - | +0.75 | - | - | @11000 | - | - | RNP1 |
| 020 | TF | WIGGY | - | 157°(155.81°) | +0.75 | 6.9 | R | @11000 | - | - | RNP1 |
| 030 | TF | CM801 | - | 160°(158.73°) | +0.75 | 7.5 | - | @11000 | -250 | - | RNP1 |
| 040 | TF | CM802 | - | 160°(158.75°) | +0.75 | 9.9 | R | 8000 | - | - | RNP1 |
| 050 | TF | PINNY (IAF) | - | 181°(180.10°) | +0.75 | 13.6 | L | 6000 | - | - | RNP1 |
| 060 | TF | MAKOK (IF) | - | 091°(090.10°) | +0.75 | 7.0 | - | 5600 | -210 | - | RNP1 |
| | | | | | | | | | | | |
| 010 | IF | VISES | - | - | +0.75 | - | - | @11000 | - | - | RNP1 |
| 020 | TF | WOTTO | - | 120°(119.07°) | +0.75 | 7.0 | - | @11000 | - | - | RNP1 |
| 030 | TF | CM801 | - | 120°(119.10°) | +0.75 | 6.0 | R | @11000 | -250 | - | RNP1 |
| 040 | TF | CM802 | - | 160°(158.75°) | +0.75 | 9.9 | R | 8000 | - | - | RNP1 |
| 050 | TF | PINNY (IAF) | - | 181°(180.10°) | +0.75 | 13.6 | L | 6000 | - | - | RNP1 |
| 060 | TF | MAKOK (IF) | - | 091°(090.10°) | +0.75 | 7.0 | - | 5600 | -210 | - | RNP1 |

WAYPOINT LIST

**RNAV RWY36**

| Waypoint Identifier | Coordinates |
|---|---|
| LAMUN | 19° 05' 13.14" N 098° 40' 44.26" E |
| WIGGY | 18° 58' 54.24" N 098° 43' 43.19" E |
| VISES | 18° 58' 11.41" N 098° 34' 38.14" E |
| WOTTO | 18° 54' 46.36" N 098° 41' 05.50" E |
| CM801 | 18° 51' 51.02" N 098° 46' 36.21" E |
| CM802 | 18° 42' 34.85" N 098° 50' 23.19" E |
| PINNY | 18° 28' 54.04" N 098° 50' 21.69" E |
| MAKOK | 18° 28' 53.15" N 098° 57' 43.76" E |

**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

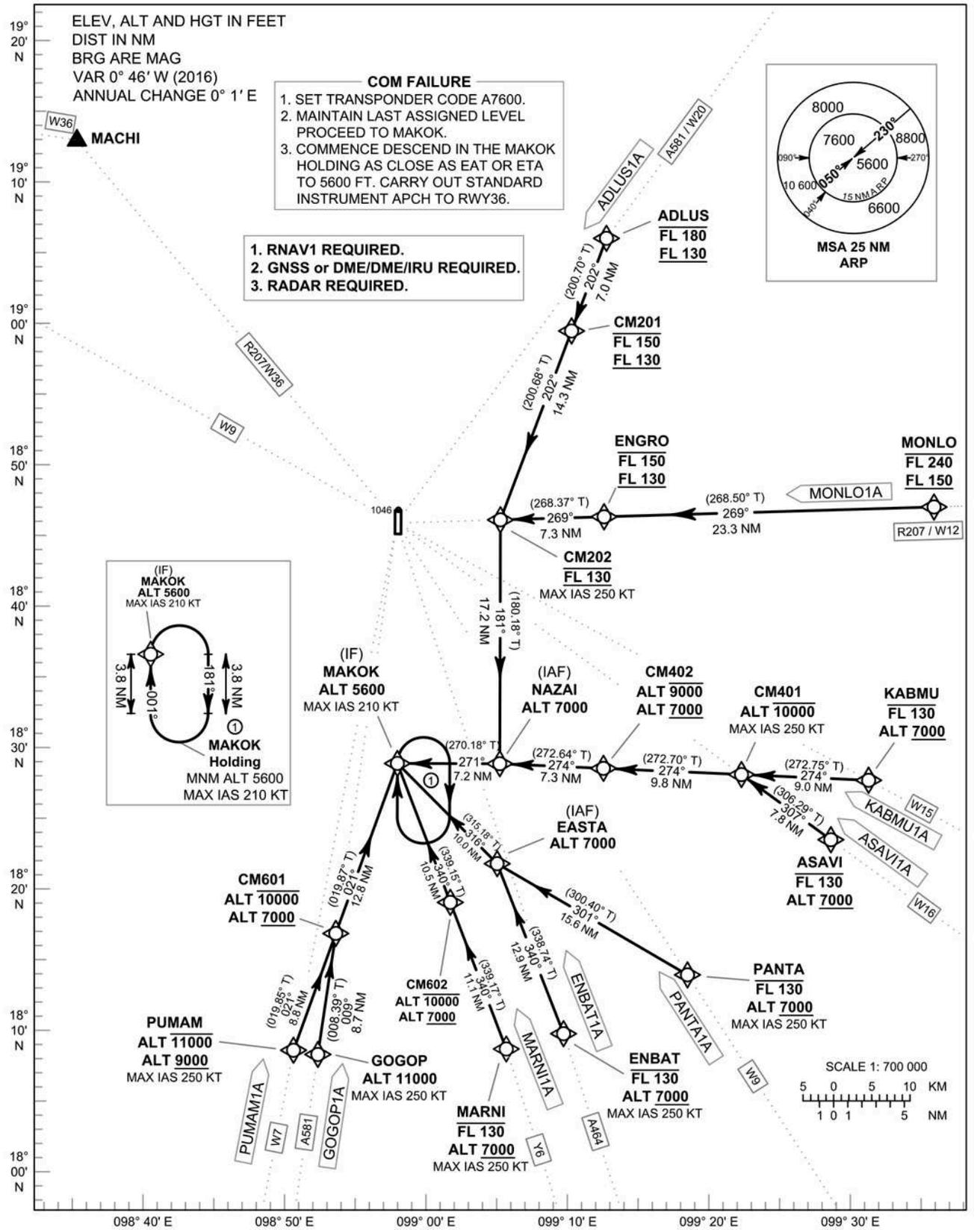
TRANSITION ALTITUDE
11000 FT

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1A ASAVI1A ENBAT1A GOGOP1A KABMU1A
MARNI1A MONLO1A PANTA1A PUMAM1A



**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1A ASAVI1A ENBAT1A GOGOP1A KABMU1A
MARNI1A MONLO1A PANTA1A PUMAM1A

TABULAR DESCRIPTION (1)

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | ADLUS | - | - | +0.75 | - | - | +FL130 ; -FL180 | - | - | RNAV1 |
| 020 | TF | CM201 | - | 202°(200.70°) | +0.75 | 7.0 | - | +FL130 ; -FL150 | - | - | RNAV1 |
| 030 | TF | CM202 | - | 202°(200.68°) | +0.75 | 14.3 | L | @FL130 | -250 | - | RNAV1 |
| 040 | TF | NAZAI (IAF) | - | 181°(180.18°) | +0.75 | 17.2 | R | 7000 | - | - | RNAV1 |
| 050 | TF | MAKOK (IF) | - | 271°(270.18°) | +0.75 | 7.2 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | ASAVI | - | - | +0.75 | - | - | +7000 ; -FL130 | - | - | RNAV1 |
| 020 | TF | CM401 | - | 307°(306.29°) | +0.75 | 7.8 | L | -10000 | -250 | - | RNAV1 |
| 030 | TF | CM402 | - | 274°(272.70°) | +0.75 | 9.8 | - | +7000 ; -9000 | - | - | RNAV1 |
| 040 | TF | NAZAI (IAF) | - | 274°(272.64°) | +0.75 | 7.3 | L | 7000 | - | - | RNAV1 |
| 050 | TF | MAKOK (IF) | - | 271°(270.18°) | +0.75 | 7.2 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | ENBAT | - | - | +0.75 | - | - | +7000 ; -FL130 | -250 | - | RNAV1 |
| 020 | TF | EASTA (IAF) | - | 340°(338.74°) | +0.75 | 12.9 | L | 7000 | - | - | RNAV1 |
| 030 | TF | MAKOK (IF) | - | 316°(315.18°) | +0.75 | 10.0 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | GOGOP | - | - | +0.75 | - | - | 11000 | -250 | - | RNAV1 |
| 020 | TF | CM601 | - | 009°(008.39°) | +0.75 | 8.7 | R | +7000 ; -10000 | - | - | RNAV1 |
| 030 | TF | MAKOK (IF) | - | 021°(019.87°) | +0.75 | 12.8 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | KABMU | - | - | +0.75 | - | - | +7000 ; -FL130 | - | - | RNAV1 |
| 020 | TF | CM401 | - | 274°(272.75°) | +0.75 | 9.0 | - | -10000 | -250 | - | RNAV1 |
| 030 | TF | CM402 | - | 274°(272.70°) | +0.75 | 9.8 | - | +7000 ; -9000 | - | - | RNAV1 |
| 040 | TF | NAZAI (IAF) | - | 274°(272.64°) | +0.75 | 7.3 | L | 7000 | - | - | RNAV1 |
| 050 | TF | MAKOK (IF) | - | 271°(270.18°) | +0.75 | 7.2 | - | 5600 | -210 | - | RNAV1 |

**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1A ASAVI1A ENBAT1A GOGOP1A KABMU1A
MARNI1A MONLO1A PANTA1A PUMAM1A

TABULAR DESCRIPTION (2)

**RNAV RWY36**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | MARNI | - | - | +0.75 | - | - | +7000 ; -FL130 | -250 | - | RNAV1 |
| 020 | TF | CM602 | - | 340°(339.17°) | +0.75 | 11.1 | - | +7000 ; -10000 | - | - | RNAV1 |
| 030 | TF | MAKOK (IF) | - | 340°(339.15°) | +0.75 | 10.5 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | MONLO | - | - | +0.75 | - | - | +FL150 ; -FL240 | - | - | RNAV1 |
| 020 | TF | ENGRO | - | 269°(268.50°) | +0.75 | 23.3 | - | +FL130 ; -FL150 | - | - | RNAV1 |
| 030 | TF | CM202 | - | 269°(268.37°) | +0.75 | 7.3 | L | @FL130 | -250 | - | RNAV1 |
| 040 | TF | NAZAI (IAF) | - | 181°(180.18°) | +0.75 | 17.2 | R | 7000 | - | - | RNAV1 |
| 050 | TF | MAKOK (IF) | - | 271°(270.18°) | +0.75 | 7.2 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | PANTA | - | - | +0.75 | - | - | +7000 ; -FL130 | -250 | - | RNAV1 |
| 020 | TF | EASTA (IAF) | - | 301°(300.40°) | +0.75 | 15.6 | R | 7000 | - | - | RNAV1 |
| 030 | TF | MAKOK (IF) | - | 316°(315.18°) | +0.75 | 10.0 | - | 5600 | -210 | - | RNAV1 |
| | | | | | | | | | | | |
| 010 | IF | PUMAM | - | - | +0.75 | - | - | +9000 ; -11000 | -250 | - | RNAV1 |
| 020 | TF | CM601 | - | 021°(019.85°) | +0.75 | 8.8 | - | +7000 ; -10000 | - | - | RNAV1 |
| 030 | TF | MAKOK (IF) | - | 021°(019.87°) | +0.75 | 12.8 | - | 5600 | -210 | - | RNAV1 |

**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV RWY36**

ADLUS1A ASAVI1A ENBAT1A GOGOP1A KABMU1A
MARNI1A MONLO1A PANTA1A PUMAM1A

WAYPOINT LIST

| **RNAV RWY36** | |
|---|---|
| | |
| Waypoint Identifier | Coordinates |
| ADLUS | 19° 06' 10.49" N 099° 13' 19.89" E |
| CM201 | 18° 59' 35.91" N 099° 10' 43.17" E |
| MONLO | 18° 47' 02.20" N 099° 37' 43.35" E |
| ENGRO | 18° 46' 23.84" N 099° 13' 07.91" E |
| CM202 | 18° 46' 11.11" N 099° 05' 24.24" E |
| KABMU | 18° 27' 38.58" N 099° 32' 47.05" E |
| ASAVI | 18° 23' 25.51" N 099° 29' 57.88" E |
| CM401 | 18° 28' 04.30" N 099° 23' 19.85" E |
| CM402 | 18° 28' 31.72" N 099° 13' 03.53" E |
| NAZAI | 18° 28' 51.94" N 099° 05' 20.81" E |
| PANTA | 18° 13' 51.17" N 099° 19' 17.05" E |
| ENBAT | 18° 09' 41.04" N 099° 10' 04.36" E |
| EASTA | 18° 21' 45.87" N 099° 05' 08.92" E |
| MARNI | 18° 08' 36.14" N 099° 05' 49.11" E |
| CM602 | 18° 19' 01.02" N 099° 01' 40.16" E |
| GOGOP | 18° 08' 12.79" N 098° 51' 49.68" E |
| PUMAM | 18° 08' 30.55" N 098° 50' 01.09" E |
| CM601 | 18° 16' 48.49" N 098° 53' 09.29" E |
| MAKOK | 18° 28' 53.15" N 098° 57' 43.76" E |

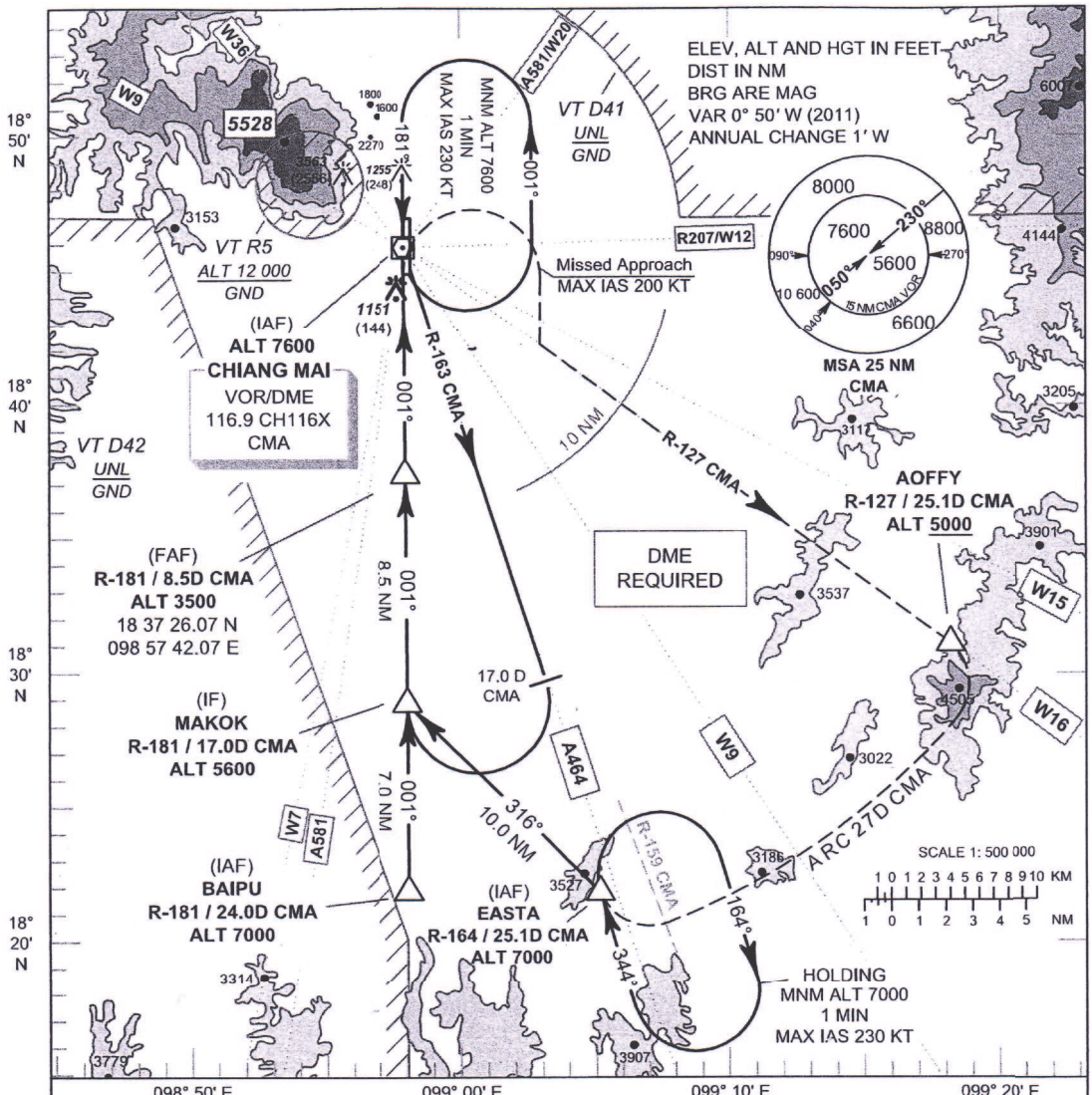
**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 1036 FT**
HEIGHTS RELATED TO
THR RWY 36 - ELEV 1007 FT

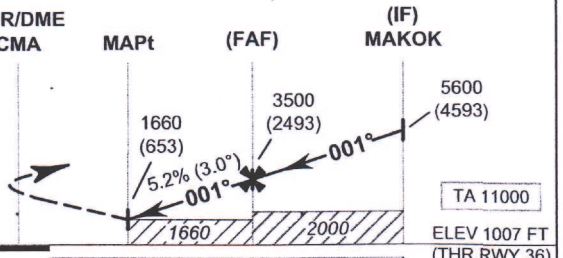
| | |
|---|---|
| APP | : 129.6 , 305.4 |
| TWR | : 118.1 , 236.6 |
| GND | : 121.9 , 275.8 |
| ATIS | : 127.2 , 301.5 |

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**VOR RWY36**




**MISSED APPROACH :**
**No turn before MAPt.**
**Speed restricted to**
**MAX IAS 200 KT until after turn.**
Climb straight ahead to 1700 FT,
then turn right to intercept outbound R-127
CMA VOR, proceed on R-127 to AOFFY follow
ARC 27D CMA to EASTA at 7000 FT
and hold or as directed by ATC.




| | | | | |
|---|---|---|---|---|
| NM FM THR 36 | 0 | 1.9 | 7.7 | 16.2 |
| DME FM VOR/DME | 0 0.8 | 2.7 | 8.5 | 17.0 |

| OCA/H | A | B | C | D |
|---|---|---|---|---|
| Straight - in Approach | 1660 (653) | | | |
| Circling* (OCH AAL) | 2020 (984) | | 2220 (1184) | 2420 (1384) |

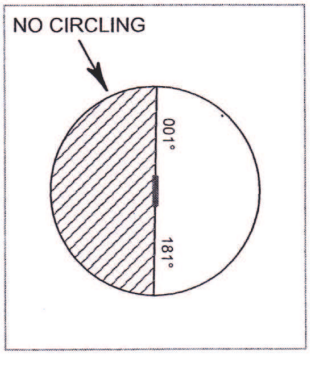
*FOR CIRCLING RESTRICTIONS SEE VERSO

| Distance (CMA) | 2.7D | 3D | 4D | 5D | 6D | 7D | 8D | FAF |
|---|---|---|---|---|---|---|---|---|
| Altitude (Height) | 1660 (653) | 1750 (743) | 2070 (1063) | 2385 (1378) | 2700 (1693) | 3015 (2008) | 3330 (2323) | 3500 (2493) |
| Ground speed | knot | 100 | 120 | 140 | 160 | 180 | 200 | |
| Rate of descent | (ft/min) | 530 | 630 | 740 | 845 | 950 | 1055 | |

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**VOR RWY36**

| Fix / Point | | Coordinates | |
|---|---|---|---|
| EASTA (IAF) | R-164 / 25.1 D CMA | 18 21 45.87 N | 099 05 08.92 E |
| BAIPU (IAF) | R-181 / 24.0 D CMA | 18 21 51.34 N | 098 57 42.68 E |
| MAKOK (IF) | R-181 / 17.0 D CMA | 18 28 53.15 N | 098 57 43.76 E |
| FAF | R-181 / 8.5 D CMA | 18 37 26.07 N | 098 57 42.07 E |
| MAPt | R-181 / 2.7 D CMA | 18 43 15.43 N | 098 57 40.92 E |
| THR RWY 36 | - | 18 45 10.95 N | 098 57 46.26 E |
| VOR | CMA | 18 45 58.06 N | 098 57 40.38 E |
| AOFFY | R-127 / 25.1 D CMA | 18 31 05.28 N | 099 19 01.11 E |



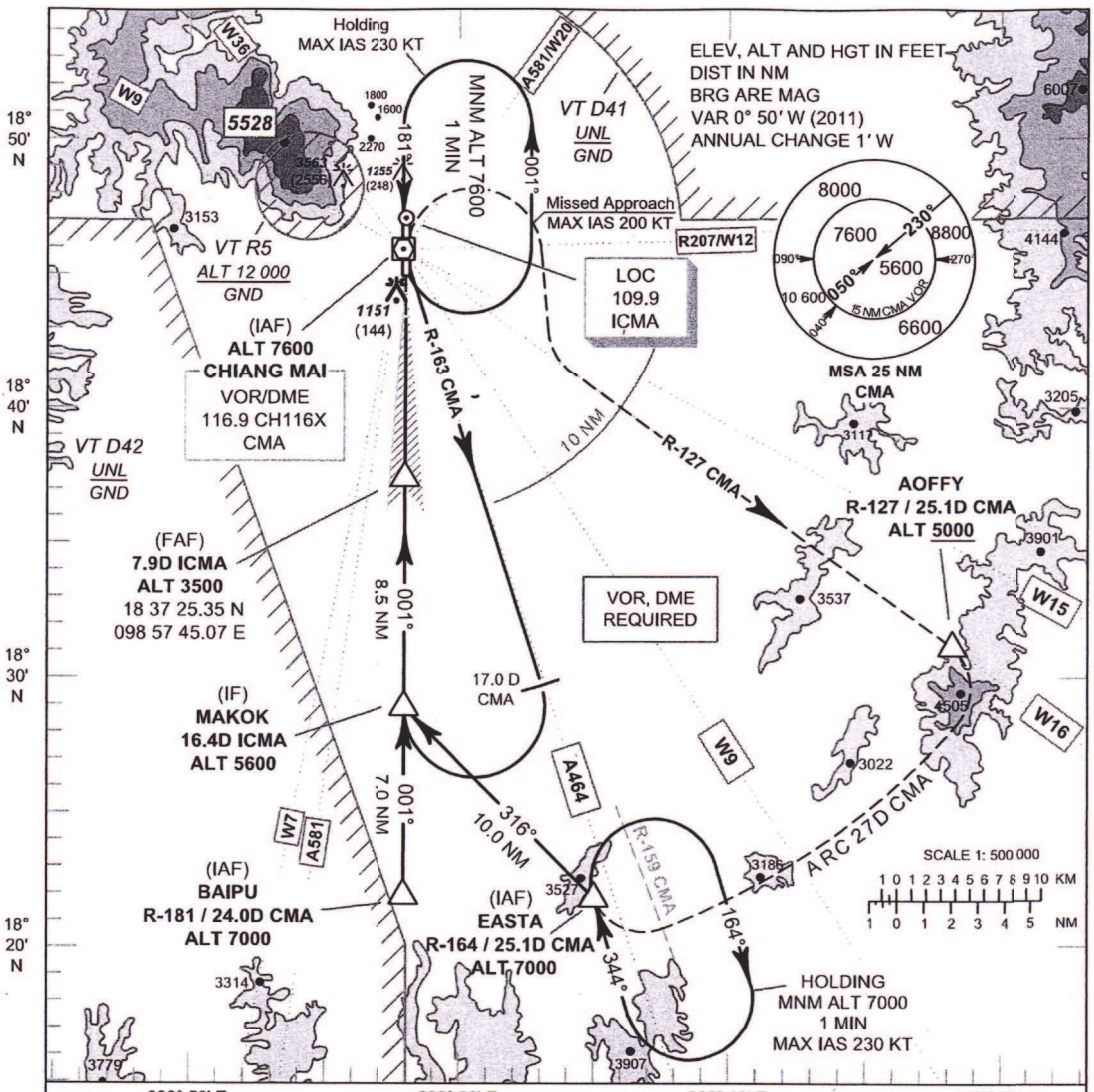
**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 1036 FT**
HEIGHTS RELATED TO
THR RWY 36 - ELEV 1007 FT

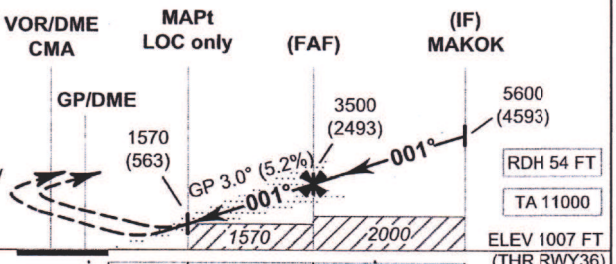
APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**ILS or LOC RWY36**




**MISSED APPROACH :**
**No turn before MAPt (for LOC only).**
**Speed restricted to**
**MAX IAS 200 KT until after turn.**
Climb straight ahead to 1700 FT,
then turn right to intercept outbound R-127
CMA VOR, proceed on R-127 to AOFFY follow
ARC 27D CMA to EASTA at 7000 FT
and hold or as directed by ATC.




| OCA/H | | A | B | C | D |
|---|---|---|---|---|---|
| Straight - in Approach | CAT I | 1390 (383) | 1400 (393) | 1410 (403) | 1420 (413) |
| LOC only | | 1570 (563) | | | |
| Circling* (OCH AAL) | | 2020 (984) | | 2220 (1184) | 2420 (1384) |

* FOR CIRCLING RESTRICTIONS SEE VERSO

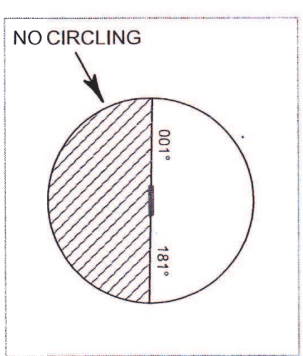
| GS OUT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Distance (ICMA) | 1.8D | 3D | 4D | 5D | 6D | 7D | FAF |
| Altitude (Height) | 1570 (563) | 1940 (933) | 2260 (1253) | 2575 (1568) | 2890 (1883) | 3205 (2198) | 3500 (2493) |
| Ground speed | knot | 100 | 120 | 140 | 160 | 180 | 200 |
| Rate of descent | (ft/min) | 530 | 630 | 740 | 845 | 950 | 1055 |

**NOTE: OCA (OCH) : 1240 (233) FT of ILS procedure can be achieved for all aircraft categories which can commence a missed approach climb gradient of 4.0% (243 FT/NM) until after turn.**

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**ILS or LOC RWY36**

| Fix / Point | | Coordinates | |
|---|---|---|---|
| EASTA (IAF) | R-164 / 25.1 D CMA | 18 21 45.87 N | 099 05 08.92 E |
| BAIPU (IAF) | R-181 / 24.0 D CMA | 18 21 51.34 N | 098 57 42.68 E |
| MAKOK (IF) | 16.4 D ICMA | 18 28 53.15 N | 098 57 43.76 E |
| FAF | 7.9 D ICMA | 18 37 25.35 N | 098 57 45.07 E |
| MAPt (LOC only) | 1.8 D ICMA | 18 43 33.11 N | 098 57 46.01 E |
| THR RWY 36 | 0.2 D ICMA | 18 45 10.95 N | 098 57 46.26 E |
| LOC | ICMA | 18 47 07.42 N | 098 57 46.56 E |
| AOFFY | R-127 / 25.1 D CMA | 18 31 05.28 N | 099 19 01.11 E |



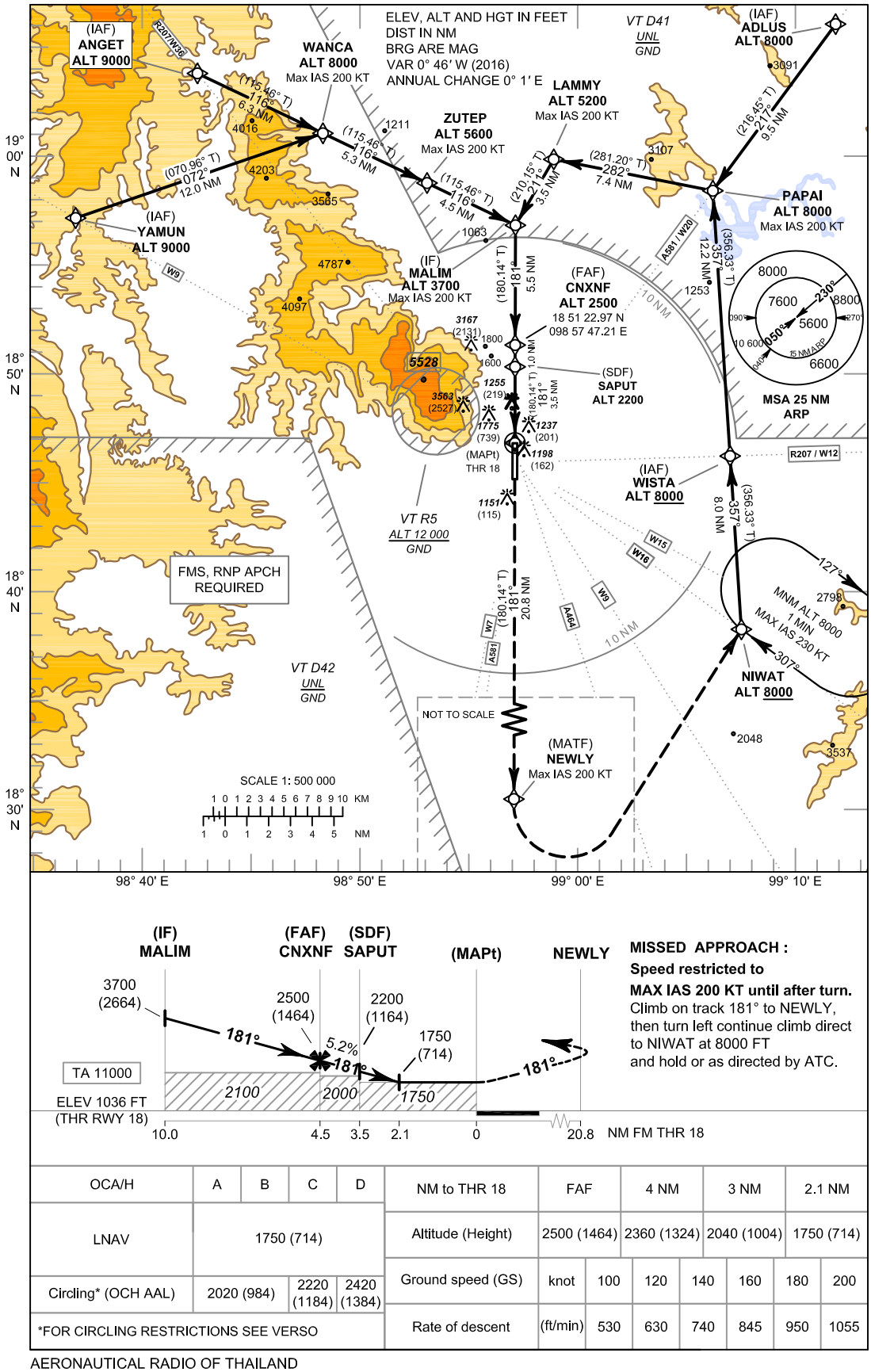
**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 1036 FT**
HEIGHTS RELATED TO AERODROME ELEV

APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV (GNSS) RWY18**







**MISSED APPROACH :**
**Speed restricted to**
**MAX IAS 200 KT until after turn.**
Climb on track 181° to NEWLY, then turn left continue climb direct to NIWAT at 8000 FT and hold or as directed by ATC.

| OCA/H | A | B | C | D |
|---|---|---|---|---|
| LNAV | 1750 (714) | | | |
| Circling* (OCH AAL) | 2020 (984) | | 2220 (1184) | 2420 (1384) |

*FOR CIRCLING RESTRICTIONS SEE VERSO

| NM to THR 18 | FAF | 4 NM | 3 NM | 2.1 NM |
|---|---|---|---|---|
| Altitude (Height) | 2500 (1464) | 2360 (1324) | 2040 (1004) | 1750 (714) |

| Ground speed (GS) | knot | 100 | 120 | 140 | 160 | 180 | 200 |
|---|---|---|---|---|---|---|---|
| Rate of descent | (ft/min) | 530 | 630 | 740 | 845 | 950 | 1055 |

AERONAUTICAL RADIO OF THAILAND
Dated : Sep 2017

**INSTRUMENT APPROACH CHART - ICAO**

**AERODROME ELEV 1036 FT**
HEIGHTS RELATED TO AERODROME ELEV

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV (GNSS) RWY18**

## TABULAR DESCRIPTION

**RNAV (GNSS) RWY18**

| Serial Number | Path Descriptor | Waypoint Identifier | Flyover | Course ° M (° T) | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 010 | IF | ANGET (IAF) | - | - | +0.75 | - | - | @9000 | - | - | RNP APCH |
| 020 | TF | WANCA | - | 116°(115.46°) | +0.75 | 6.3 | - | @8000 | -200 | - | RNP APCH |
| 030 | TF | ZUTEP | - | 116°(115.46°) | +0.75 | 5.3 | - | @5600 | -200 | - | RNP APCH |
| 040 | TF | MALIM (IF) | - | 116°(115.46°) | +0.75 | 4.5 | - | @3700 | -200 | - | RNP APCH |
| | | | | | | | | | | | |
| 010 | IF | YAMUN (IAF) | - | - | +0.75 | - | - | @9000 | - | - | RNP APCH |
| 020 | TF | WANCA | - | 072°(070.96°) | +0.75 | 12.0 | R | @8000 | -200 | - | RNP APCH |
| 030 | TF | ZUTEP | - | 116°(115.46°) | +0.75 | 5.3 | - | @5600 | -200 | - | RNP APCH |
| 040 | TF | MALIM (IF) | - | 116°(115.46°) | +0.75 | 4.5 | - | @3700 | -200 | - | RNP APCH |
| | | | | | | | | | | | |
| 010 | IF | ADLUS (IAF) | - | - | +0.75 | - | - | @8000 | - | - | RNP APCH |
| 020 | TF | PAPAI | - | 217°(216.45°) | +0.75 | 9.5 | R | @8000 | -200 | - | RNP APCH |
| 030 | TF | LAMMY | - | 282°(281.20°) | +0.75 | 7.4 | L | @5200 | -200 | - | RNP APCH |
| 040 | TF | MALIM (IF) | - | 211°(210.15°) | +0.75 | 3.5 | - | @3700 | -200 | - | RNP APCH |
| | | | | | | | | | | | |
| 010 | IF | NIWAT | - | - | +0.75 | - | - | +8000 | - | - | RNP APCH |
| 020 | TF | WISTA (IAF) | - | 357°(356.33°) | +0.75 | 8.0 | - | +8000 | - | - | RNP APCH |
| 030 | TF | PAPAI | - | 357°(356.33°) | +0.75 | 12.2 | L | @8000 | -200 | - | RNP APCH |
| 040 | TF | LAMMY | - | 282°(281.20°) | +0.75 | 7.4 | L | @5200 | -200 | - | RNP APCH |
| 050 | TF | MALIM (IF) | - | 211°(210.15°) | +0.75 | 3.5 | - | @3700 | -200 | - | RNP APCH |
| | | | | | | | | | | | |
| 010 | IF | MALIM (IF) | - | - | +0.75 | - | - | @3700 | -200 | - | RNP APCH |
| 020 | TF | CNXNF (FAF) | - | 181°(180.14°) | +0.75 | 5.5 | - | @2500 | - | - | RNP APCH |
| 030 | TF | SAPUT (SDF) | - | 181°(180.14°) | +0.75 | 1.0 | - | @2200 | - | - | RNP APCH |
| 040 | TF | THR18 (MAPt) | Y | 181°(180.14°) | +0.75 | 3.5 | - | @1750 | - | - | RNP APCH |
| 050 | TF | NEWLY (MATF) | - | 181°(180.14°) | +0.75 | 20.8 | - | - | -200 | - | RNP APCH |
| 060 | DF | NIWAT | - | - | +0.75 | - | L | +8000 | - | - | RNP APCH |
| 070 | HM | NIWAT | Y | 307°(306.18°) | +0.75 | 1 minute | R | +8000 | -230 | - | RNP APCH |

**INSTRUMENT APPROACH CHART - ICAO**

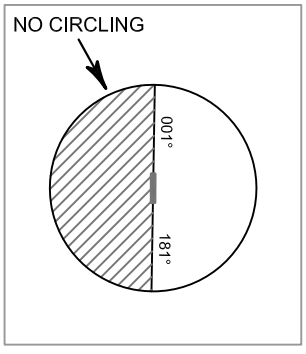
**AERODROME ELEV 1036 FT**
HEIGHTS RELATED TO AERODROME ELEV

**CHIANG MAI / Chiang Mai Intl (VTCC)**

**RNAV (GNSS) RWY18**

**WAYPOINT LIST**

| **RNAV (GNSS) RWY18** | | |
|---|---|---|
| | | |
| Waypoint Identifier | Coordinates | Pronunciation |
| ANGET | 19° 03' 53.80" N 098° 42' 22.25" E | ANN - GET |
| YAMUN | 18° 57' 12.85" N 098° 36' 28.84" E | YA - MOON |
| WANCA | 19° 01' 08.45" N 098° 48' 27.72" E | WAN - SHA |
| ZUTEP | 18° 58' 51.10" N 098° 53' 30.82" E | SU - TEPH |
| ADLUS | 19° 06' 10.49" N 099° 13' 19.89" E | ADD - LUST |
| NIWAT | 18° 38' 15.97" N 099° 08' 44.17" E | NI - WATH |
| WISTA | 18° 46' 15.75" N 099° 08' 11.82" E | WISS - TA |
| PAPAI | 18° 58' 29.70" N 099° 07' 22.25" E | PA - PEI |
| LAMMY | 18° 59' 56.75" N 098° 59' 39.38" E | LAM - MEE |
| MALIM | 18° 56' 54.38" N 098° 57' 48.06" E | MAE - LIM |
| CNXNF | 18° 51' 22.97" N 098° 57' 47.21" E | |
| SAPUT | 18° 50' 22.71" N 098° 57' 47.05" E | SA - POOT |
| MAPt (THR18) | 18° 46' 51.81" N 098° 57' 46.51" E | |
| NEWLY | 18° 25' 58.44" N 098° 57' 43.31" E | NEW - LEE |



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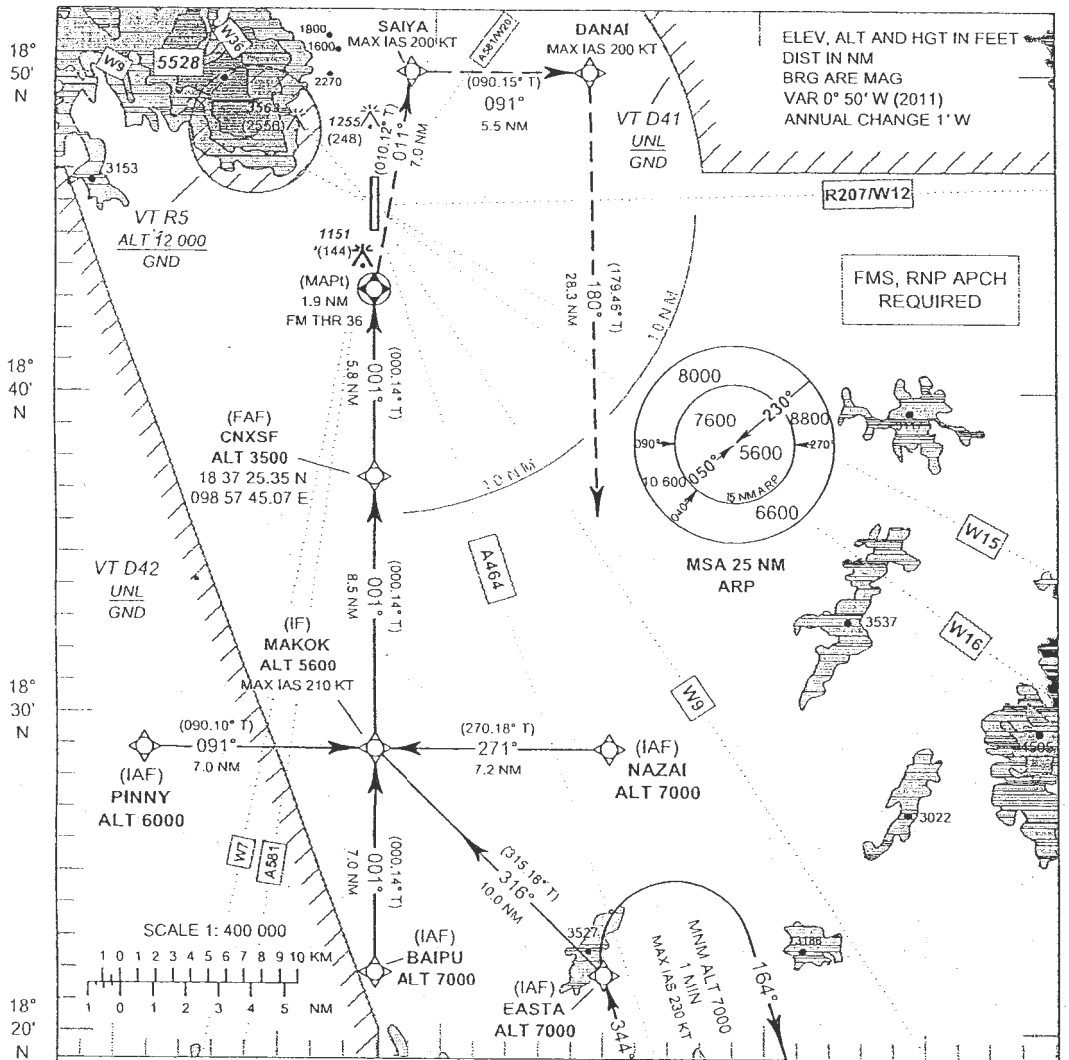
INSTRUMENT APPROACH CHART - ICAO

AERODROME ELEV 1036 FT
HEIGHTS RELATED TO
THR RWY 36 - ELEV 1007 FT

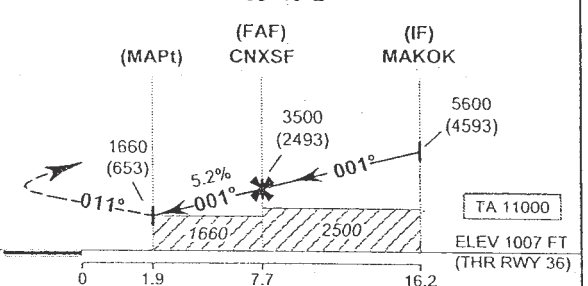
APP : 129.6 , 305.4
TWR : 118.1 , 236.6
GND : 121.9 , 275.8
ATIS : 127.2 , 301.5

CHIANG MAI / Chiang Mai Intl (VTCC)

RNAV (GNSS) RWY36




**MISSED APPROACH :**
At MAPt, turn right climb on course 011° to SAIYA. Continue to DANAI then EASTA at 7000 (5993) FT, and hold or as directed by ATC.




| OCA/H | A | B | C | D |
|---|---|---|---|---|
| LNAV | 1660 (653) | | | |
| Circling* (OCH AAL) | 2020 (984) | 2020 (984) | 2220 (1184) | 2420 (1384) |

*FOR CIRCLING RESTRICTIONS SEE VERSO

| NM to THR 36 | 1.9 NM | 2 NM | 3 NM | 4 NM | 5 NM | 6 NM | 7 NM | FAF |
|---|---|---|---|---|---|---|---|---|
| Altitude (Height) | 1660 (653) | 1690 (683) | 2005 (998) | 2320 (1313) | 2635 (1628) | 2955 (1948) | 3270 (2263) | 3500 (2493) |
| Ground speed (GS) knot | 100 | 120 | 140 | 160 | 180 | 200 | | |
| Rate of descent (ft/min) | 530 | 630 | 740 | 845 | 950 | 1055 | | |

CHIANG MAI / Chiang Mai Intl (VTCC)

RNAV (GNSS) RWY36

| Serial Number | Path Descriptor | Waypoint Identifier | WGS-84 Coordinates | | Flyover | Course | Magnetic Variation | Distance (NM) | Turn Direction | Altitude (FT) | Speed (KT) | VPA/ TCH | Navigation Specification |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Latitude | Longtitude | | ° M (° T) | | | | | | | |
| 001 | IF | EASTA (IAF) | 18 21 45.87 N | 099 05 08.92 E | - | 316°(315.18°) | 0.87 | 10.0 | - | 7000 | - | - | RNP APCH |
| 002 | IF | BAIPU (IAF) | 18 21 51.34 N | 098 57 42.68 E | - | 001°(000.14°) | 0.87 | 7.0 | - | 7000 | - | - | RNP APCH |
| 003 | IF | PINNY (IAF) | 18 28 54.04 N | 098 50 21.69 E | - | 091°(090.10°) | 0.87 | 7.0 | - | 6000 | - | - | RNP APCH |
| 004 | IF | NAZAI (IAF) | 18 28 51.94 N | 099 05 20.81 E | - | 271°(270.18°) | 0.87 | 7.2 | - | 7000 | - | - | RNP APCH |
| 005 | TF | MAKOK (IF) | 18 28 53.15 N | 098 57 43.76 E | - | 001°(000.14°) | 0.87 | 8.5 | L, R | 5600 | 210 | - | RNP APCH |
| 006 | TF | CNXSF (FAF) | 18 37 25.35 N | 098 57 45.07 E | - | 001°(000.14°) | 0.87 | 5.8 | - | 3500 | - | - | RNP APCH |
| 008 | CF | MAPt (1.9 NM FM THR36) | 18 43 15.94 N | 098 57 45.96 E | Y | 011°(010.12°) | 0.87 | 7.0 | R | 1660 | - | - | RNP APCH |
| 009 | TF | SAIYA | 18 50 12.05 N | 098 59 03.95 E | - | 091°(090.15°) | 0.87 | 5.5 | R | - | 200 | - | RNP APCH |
| 010 | TF | DANAI | 18 50 11.11 N | 099 04 52.02 E | - | 180°(179.46°) | 0.87 | 28.3 | R | - | 200 | - | RNP APCH |
| 011 | TF | EASTA (IAF) | 18 21 45.87 N | 099 05 08.92 E | - | 344°(343.61°) | 0.87 | - | - | 7000 | - | - | RNP APCH |
| 012 | HM | EASTA (IAF) | 18 21 45.87 N | 099 05 08.92 E | Y | 344°(343.61°) | 0.87 | - | R | 7000 | - | - | RNP APCH |